

Presentation Of Findings

OPS/DAMQAT

UNDERGROUND FACILITY DAMAGE

PREVENTION STUDY

Conducted by:

Bivings Woodell, Inc.
and
Edge Research, Inc.

September 1997

Methodology

Contractor Survey

The contractor portion of the project is based on a survey of 300 respondents who work for excavation contracting companies and have personally participated in on-site excavations within the past year. Telephone interviewing was conducted from May 16 through June 4, 1997. The statistical margin of error for the sample as a whole is plus or minus 5.7 percentage points at the 95% confidence level. The margin of error for subgroups is larger.

Government Employee Survey

The government employee portion of the project is based on a survey of 250 respondents who work in government highway and public works departments at the state, county, or municipal level, and who have personally participated in on-site excavations within the past year. Telephone interviewing was conducted from May 19 through June 4, 1997. The statistical margin of error for the sample as a whole is plus or minus 6.2 percentage points at the 95% confidence level. The margin of error for subgroups is larger.

Underground Facility Operator Survey

The facility operator portion of the project is based on a survey of 250 respondents who work for underground facility operators and are personally involved in the operation or maintenance of their company's underground facilities. Telephone interviewing was conducted from May 30 through June 11, 1997. The statistical margin of error for the sample as a whole is plus or minus 6.2 percentage points at the 95% confidence level. The margin of error for subgroups is larger.

Public Survey

The public portion of the project is based on a survey of 600 respondents from the United States adult population who own or have access to property where they are allowed to dig for construction, home improvement or other purposes. Telephone interviewing was conducted from May 21 through May 25, 1997. The statistical margin of error for the sample as a whole is plus or minus 4.0 percentage points at the 95% confidence level. The margin of error for subgroups is larger.

Summary

Sample Characteristics

The contractor universe sample consisted primarily of smaller companies who usually excavate on a daily basis.

The government sample contained workers who usually excavated about once a week. There was a good mix of state, county, and municipal workers.

The facility operator sample encompassed employees from larger companies. Approximately 50 respondents were surveyed from each of five industries: natural gas, electric, petroleum, telecommunications, and cable television. Because many companies have multiple types of facilities, the largest percentage of respondents report they operate natural gas and telecommunications facilities. (In particular, a majority of respondents from petroleum companies report that they also operate natural gas facilities, and a majority of respondents from Cable TV companies report that they also operate telecommunications facilities.)

All participants were assured that their responses were confidential and would be used for aggregate statistical purposes only.

Summary

- **The Specialized Groups (Contractors, Government Workers, And Facility Operators) Are Highly Concerned About Pipeline Damage**
 - The overwhelming majority of contractors, government workers and facility operators, are very concerned about underground facility damage.
 - While the specialized groups are concerned about damage in general, they are also worried about their potential to cause or be victims of damage.
 - In contrast, the general public is considerably less concerned about underground facility damage.
- **There Is A High Level Of Participation In One Call Programs**
 - Most contractors and government workers report they are very familiar with One Call and most use the system.
 - Most facility operators participate in a One Call Program.
 - A majority of contractors and government employees report they contact One Call regularly before excavating.
 - A majority of facility operators report they regularly provide excavators with facility location information before excavations.
 - While the vast majority of industry respondents report that One Call Centers are very effective, two-thirds say they have been in accidents even after contacting and receiving information from a One Call Center.

Summary

- **Current Materials Produced To Encourage One Call Participation Have Been Effective**
 - Most industry respondents are familiar with the various One Call message delivery vehicles.
 - Training materials, safety videos, and work permits are perceived to be the most effective communication tools.
- **People Want To Take Steps To Prevent Damage And Frequently Use One Call As The Vehicle To Perform That Task**
 - Virtually all industry respondents report they take steps to prevent damage to underground facilities.
 - Participation in One Call is very high among all three industry groups.
 - While government departments are most likely to report using One Call before excavating, contractors and facility operators are considerably more likely to utilize other damage prevention methods.
 - In addition to One Call, industry respondents cite a number of damage prevention methods as effective and practical.
 - Government workers are slightly less likely than contractors to view other methods as practical, particularly hand digging.

Summary

- **Despite Damage Prevention Efforts, Underground Facility Accidents Occur Frequently And For A Variety Of Reasons**
 - Large majorities of all the industry respondents report their organization has been involved in an accident that caused damage to an underground facility.
 - Not surprisingly, the percentage is much smaller among the general public, although 7% of property owners report they have damaged an underground facility.
 - Among those who have had problems with One Call, speed and accuracy are the most commonly cited reasons the system is not effective.
 - When prompted, the top criticisms of One Call revolve around availability and speed.
 - Contractors and government workers are by far most likely to cite inaccurate facility markings as a very important factor in their most recent accident. (Still, about one-third say the facility operator provided accurate markings, but their organization failed to avoid damage anyway.)
 - Facility operators are most likely to point the finger at the excavators as the cause of accidents.

Summary

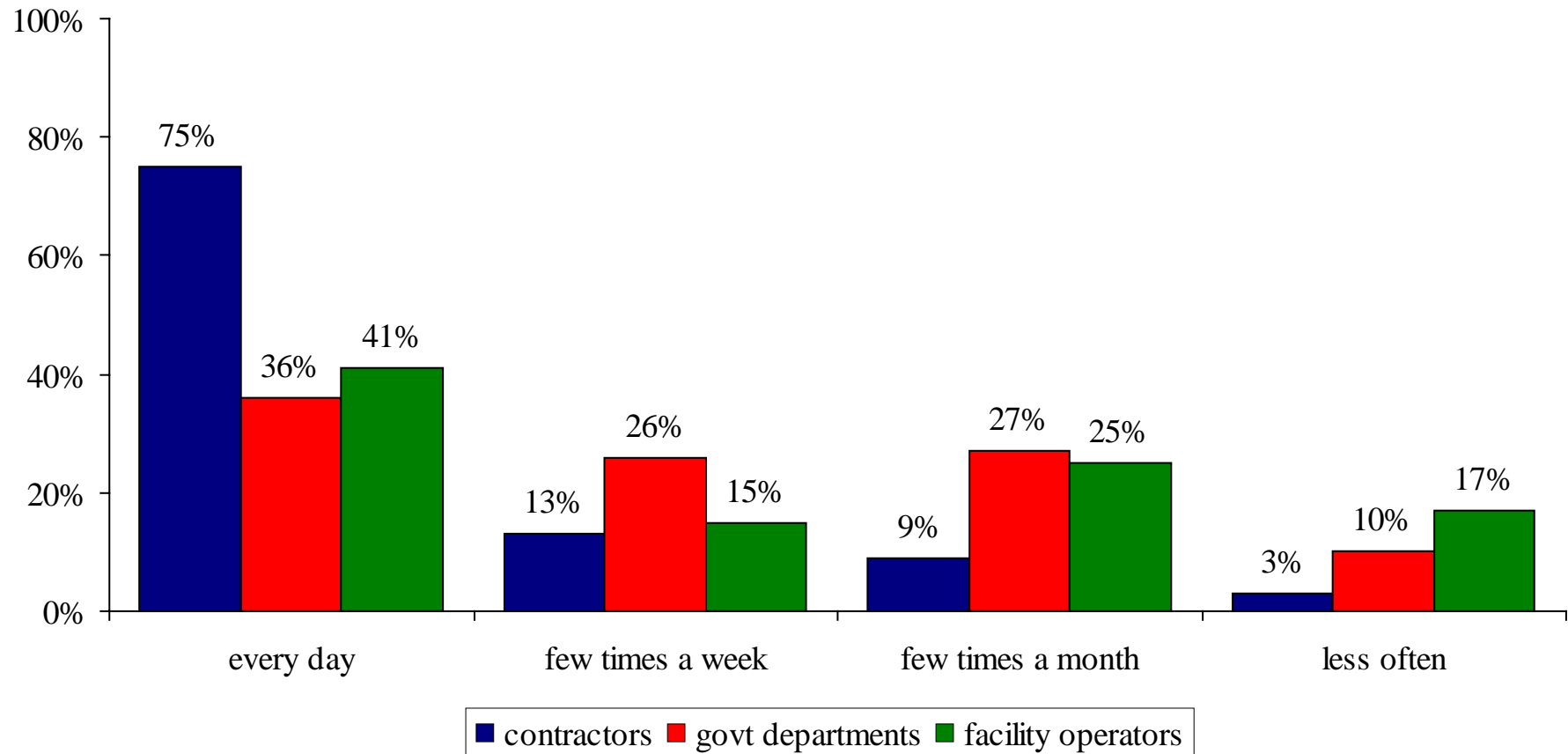
- **The General Public Has A Lower Level Of Awareness Of Underground Facilities And Damage Prevention, Although A Majority Are Aware Of One Call Systems**
 - While the public views underground facilities as a safer form of transportation than trucking, they give railroads and airlines higher marks for safety.
 - A majority of property owners report they have underground pipelines or cables on or near their property.
 - 43% have dug underground, while 15% have encountered an underground facility. (Recall that 7% report damaging an underground facility.)
 - A majority of property owners are aware of One Call, but only one-third of those who have excavated report contacting a One Call center.
 - While potential personal injury is the top reason to use One Call, damaging infrastructure and hurting the environment are effective messages as well.

Sample Characteristics

- Respondents were sampled from four universes:
 - excavation contractors (n=300);
 - government road and public works employees (n=250);
 - underground facility operators (n=250);
 - U.S. adults who own or have access to property on which they are allowed to dig (n=600).
- The contractor universe sample consisted mainly of smaller companies who usually excavate on a daily basis.
- The government sample contained workers who usually excavated about once a week. There was a good mix of state, county, and municipal workers.
- Approximately 50 respondents were surveyed from each of five industries: natural gas, electric, petroleum, telecommunications, and cable television. Because many companies (especially those from the petroleum and cable TV industries) have multiple types of facilities, the largest percentage report they operate natural gas and telecommunications facilities.

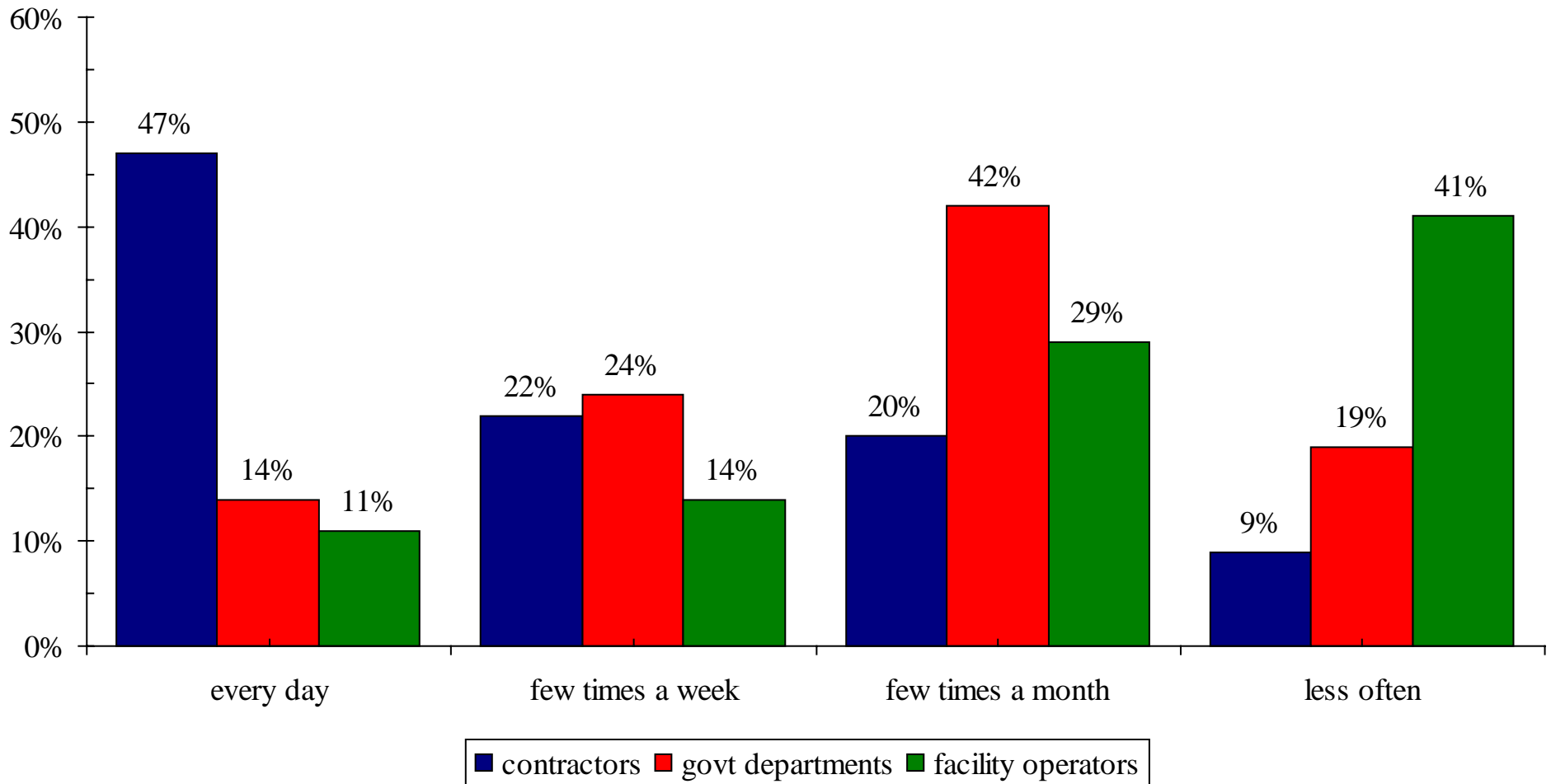
Contractors' Companies Are Most Likely To Excavate On A Daily Basis

On average, would you say that your company as a whole is involved in on-site excavations just about every day, a few times a week, a few times a month, or less often than a few times a month?



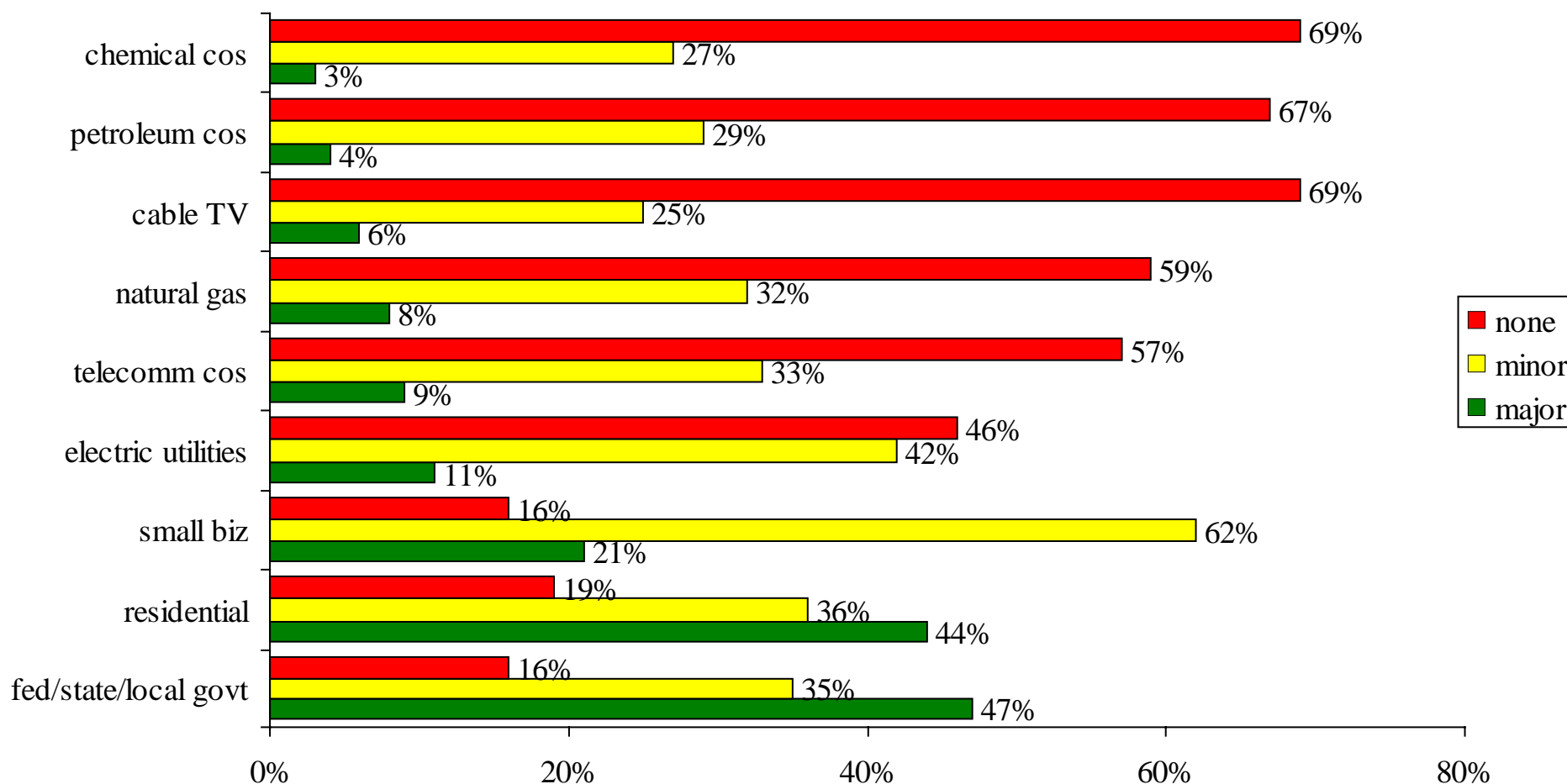
Contractors Are By Far The Most Likely To Report That They Personally Excavate on a Daily Basis

On average, would you say that you personally are involved in on-site excavations just about every day, a few times a week, a few times a month, or less often than a few times a month?

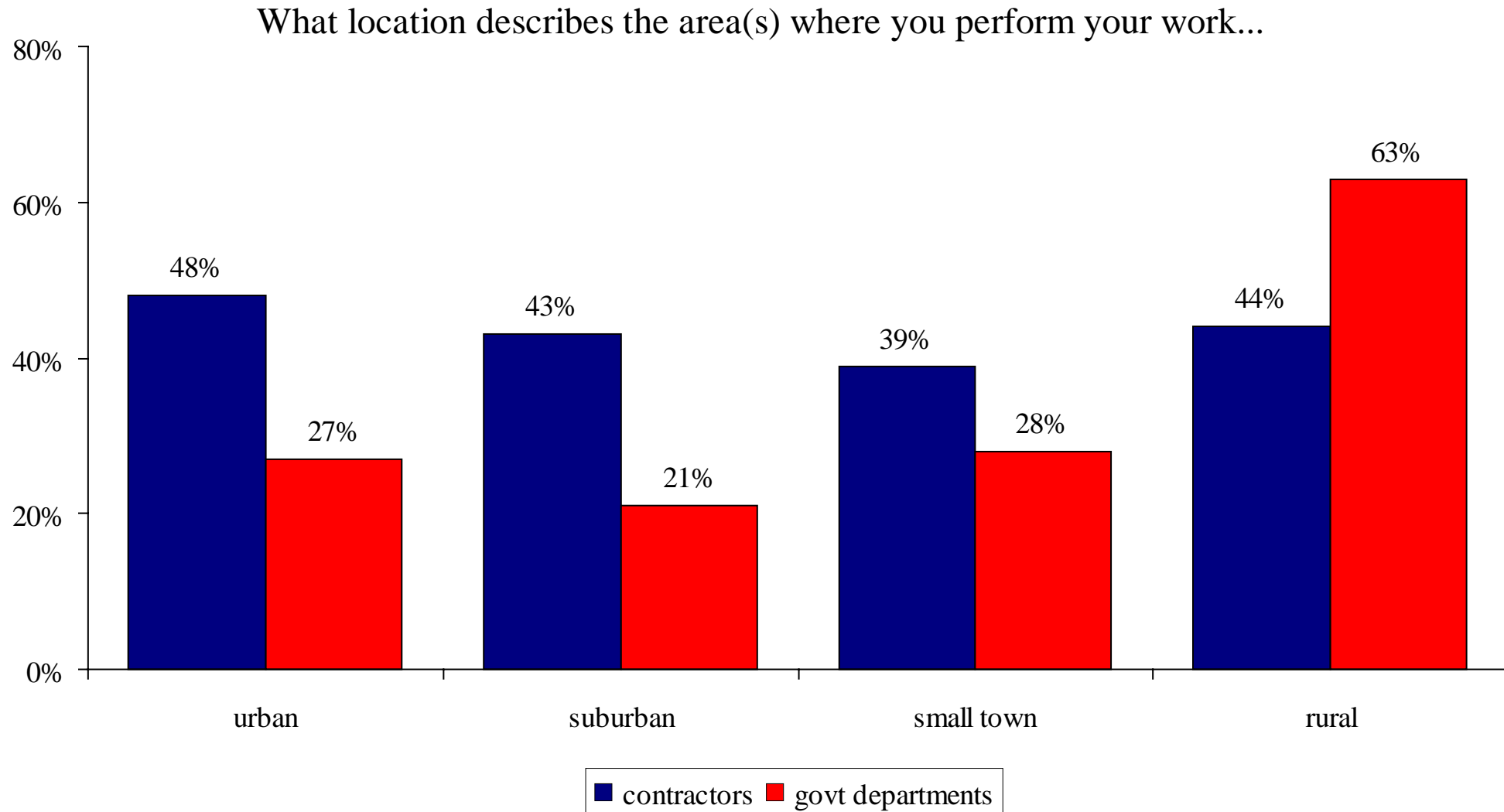


The Contractors Surveyed Are Most Likely To Work For Governmental And Residential Customers

How large a part of your business are the following?

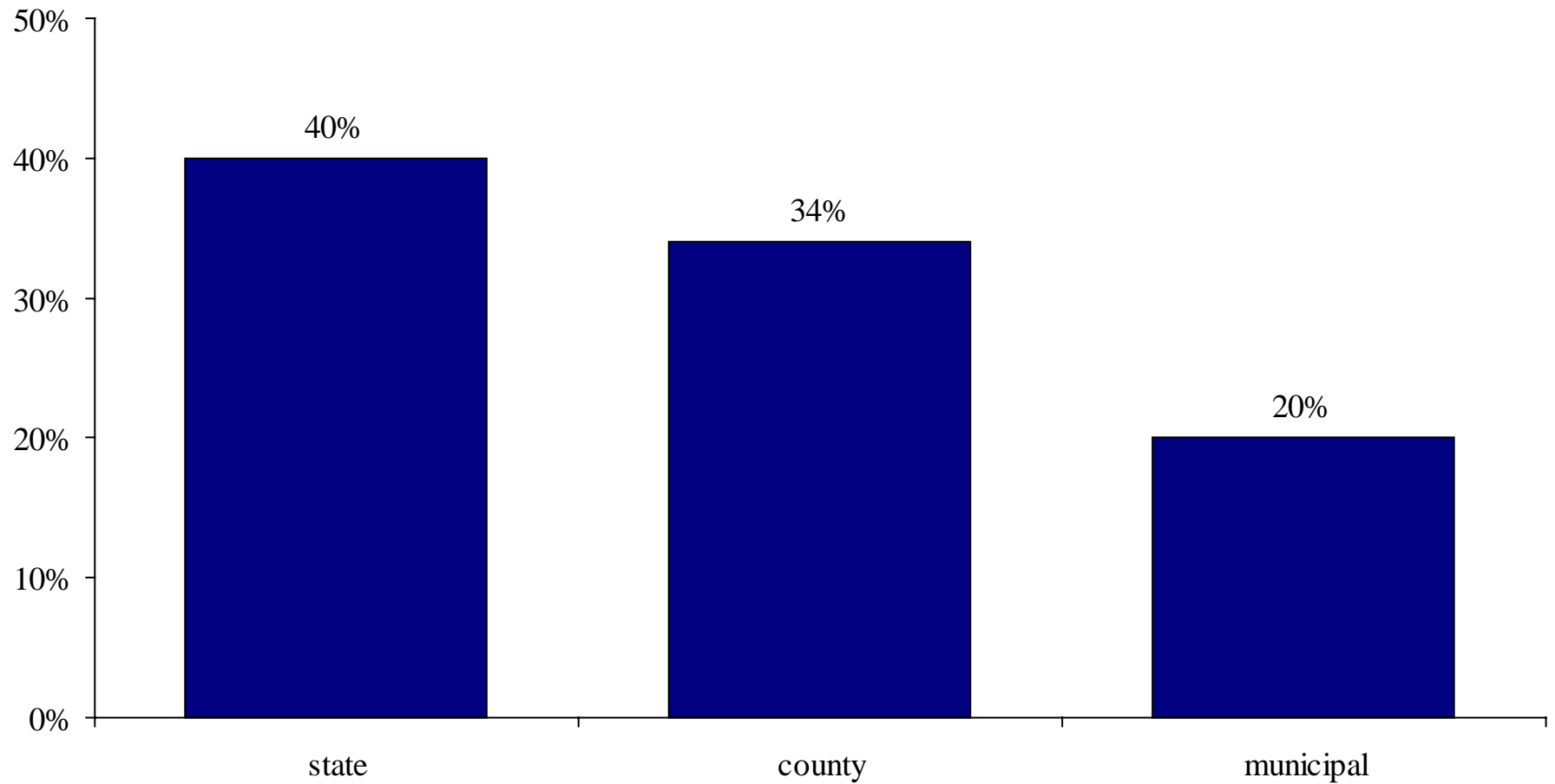


The Government Workers Surveyed Are Most Likely To Work In Rural Areas, While The Contractors Work About Equally In All Areas

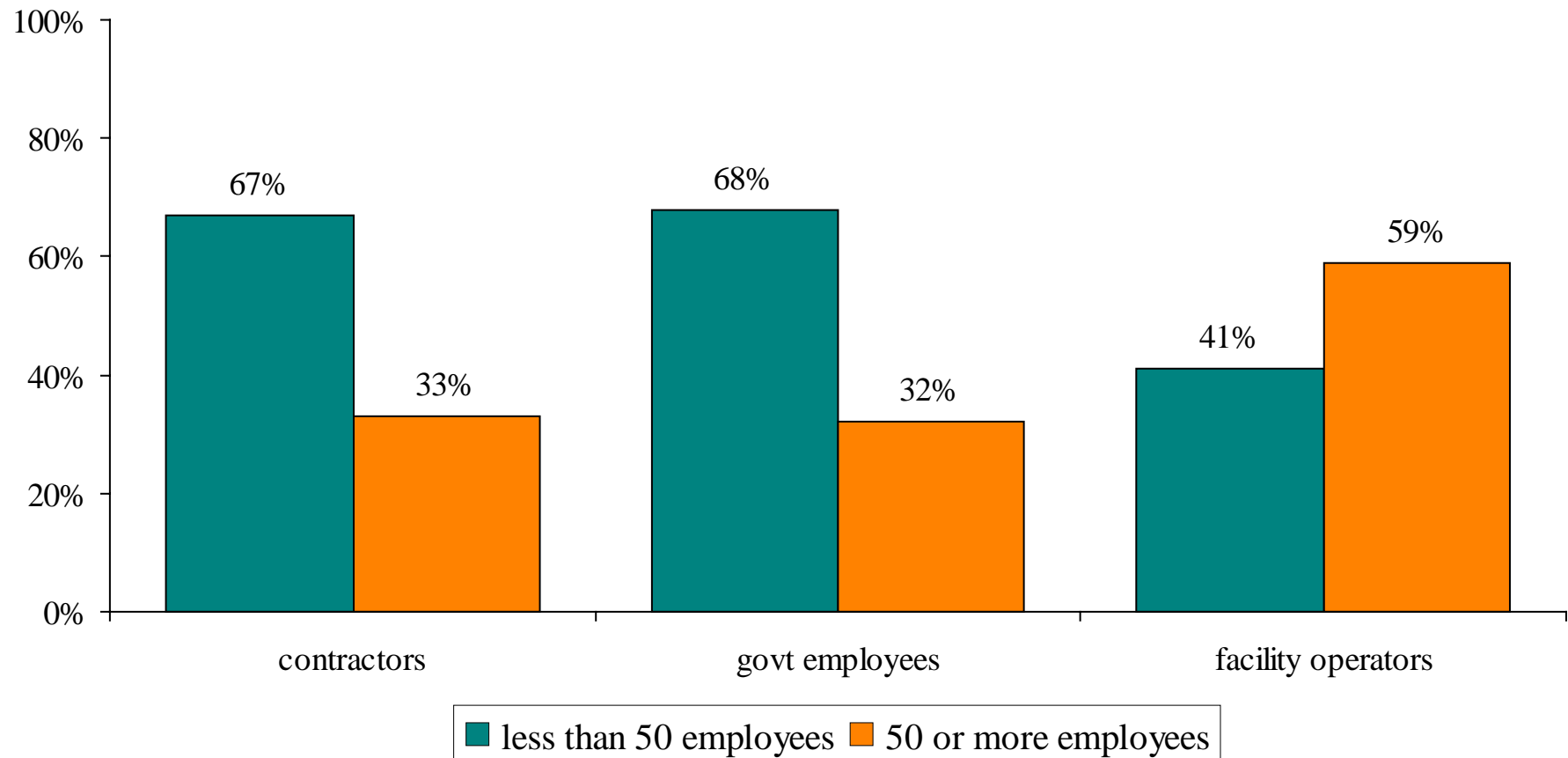


Multiple responses accepted

Government Employees From The State, County, And Municipal Levels Were Surveyed

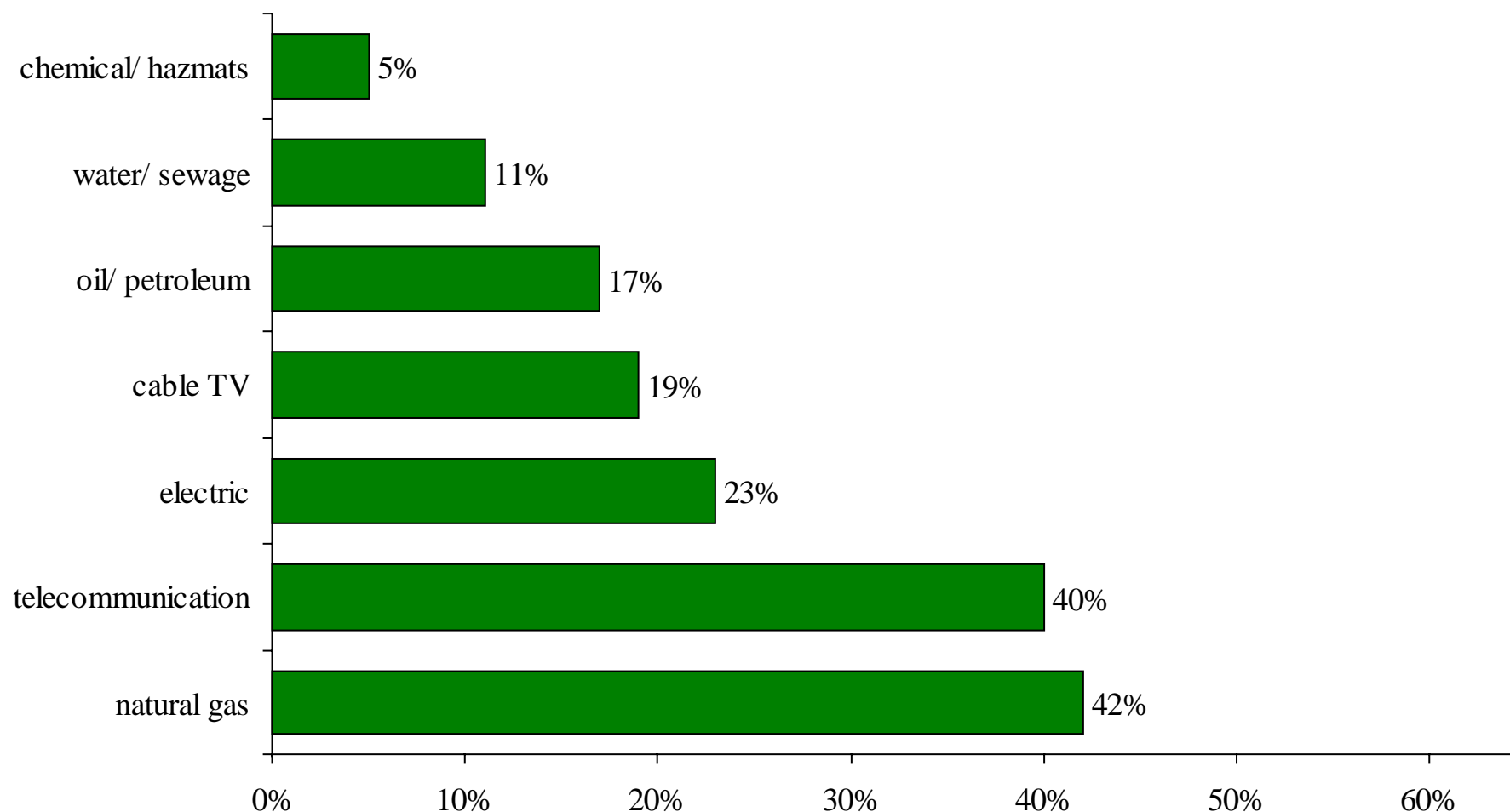


Generally Speaking, The Facility Operators Surveyed Work For Larger Organizations Than The Government Workers Or Contractors



Facility Operators From A Variety Of Industries Were Surveyed

Which of the following types of underground facilities does your company operate or manage?



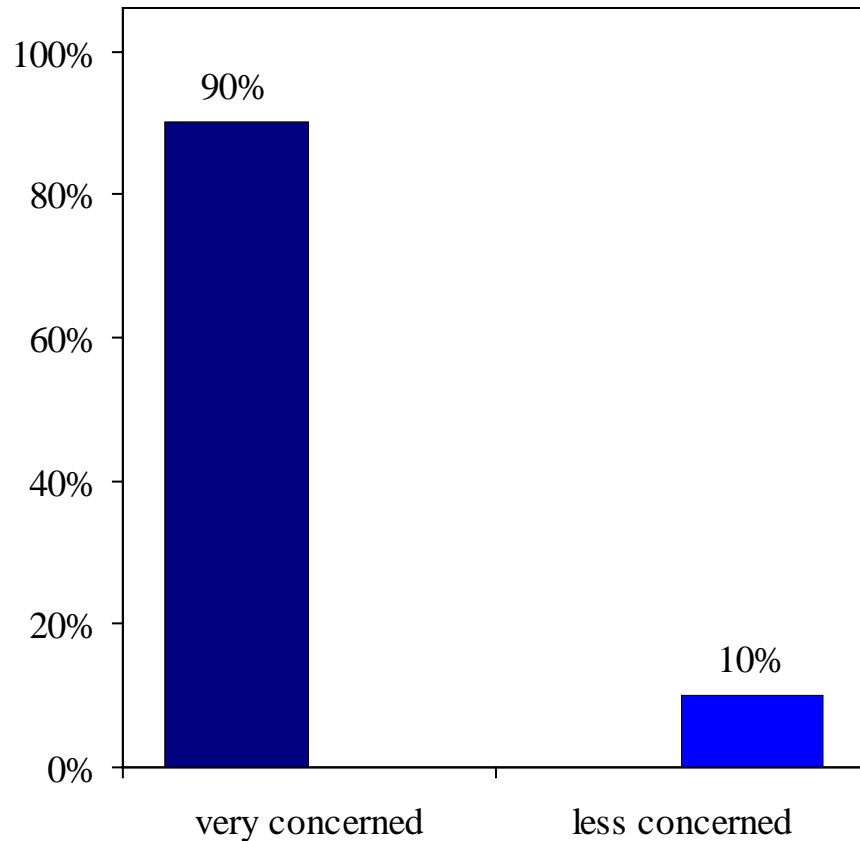
Self-reported -- multiple responses accepted

Concern About Underground Facility Damage

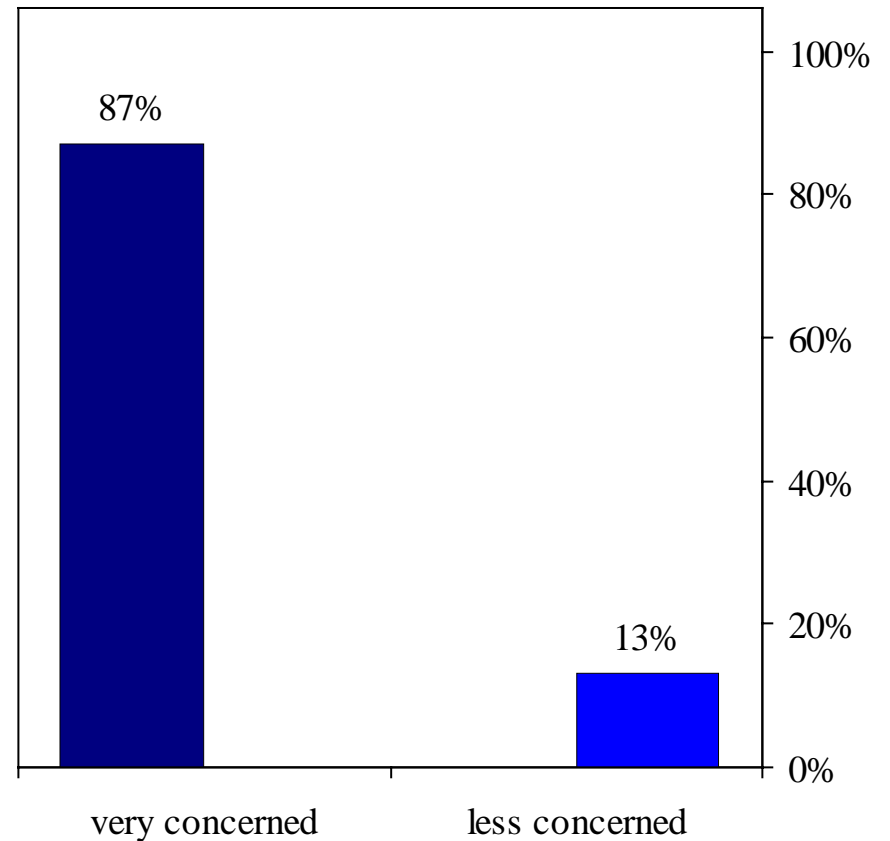
- The overwhelming majority of contractors, government workers and facility operators are very concerned about underground facility damage.
- While these specialized groups are concerned about damage in general, they are also worried about their potential to cause or be victims of damage.
- In contrast, the general public is considerably less concerned about underground facility damage.

An Overwhelming Majority Of Contractors Are Very Concerned About Damage To Underground Facilities

concerned about damage
to underground facilities

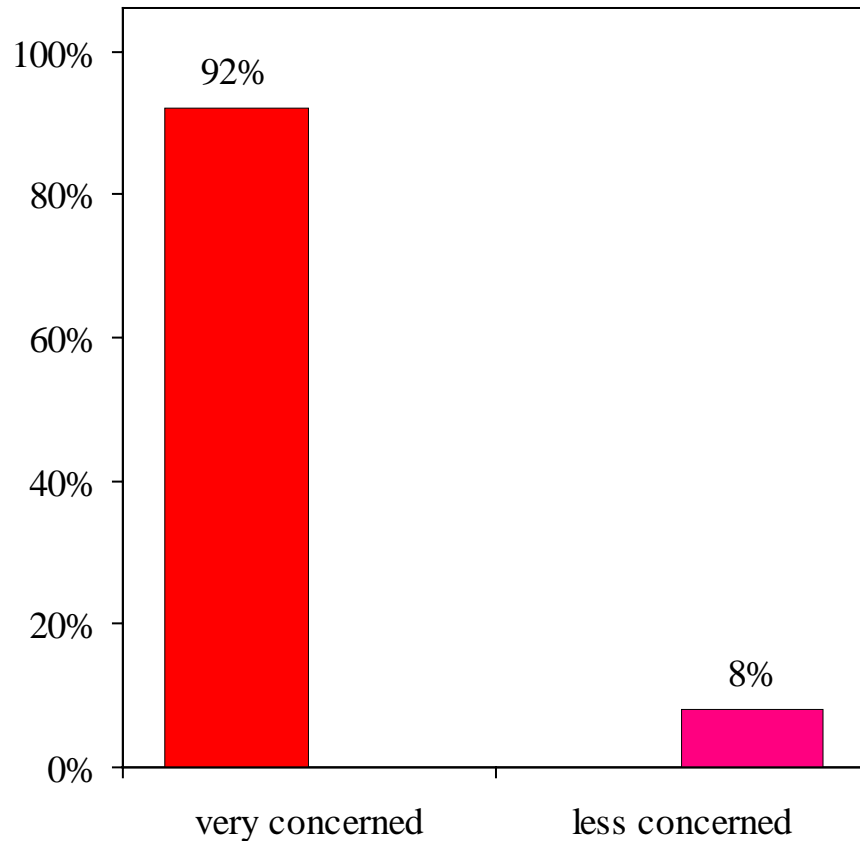


concerned your company might
cause damage to facilities

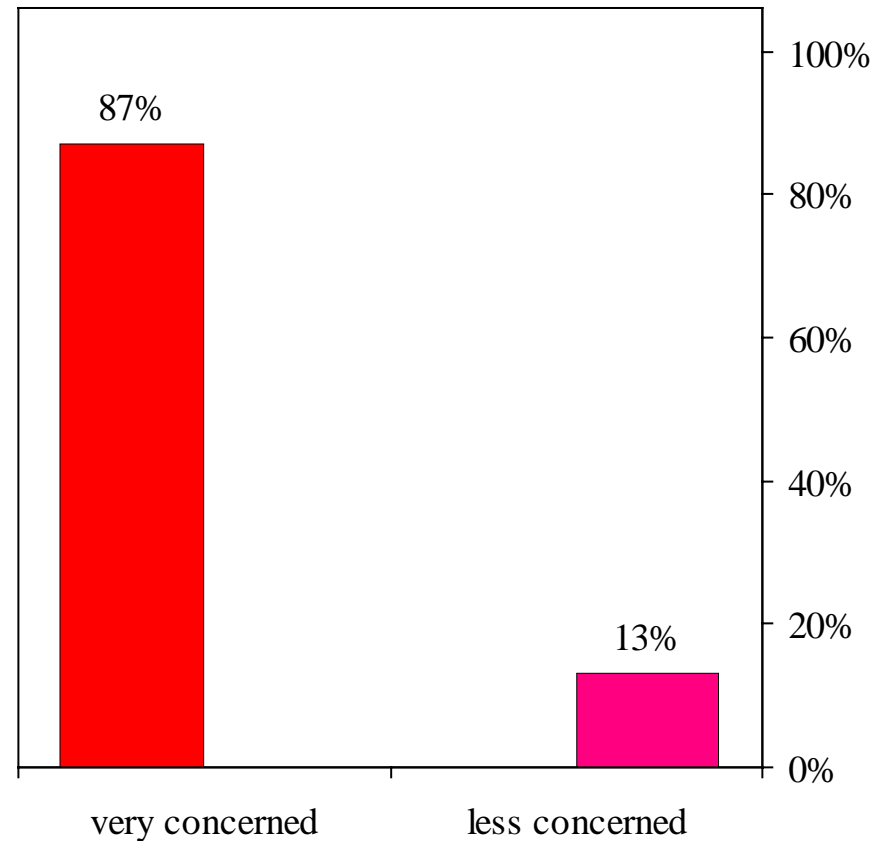


Government Employees Demonstrate The Same Level Of Apprehension

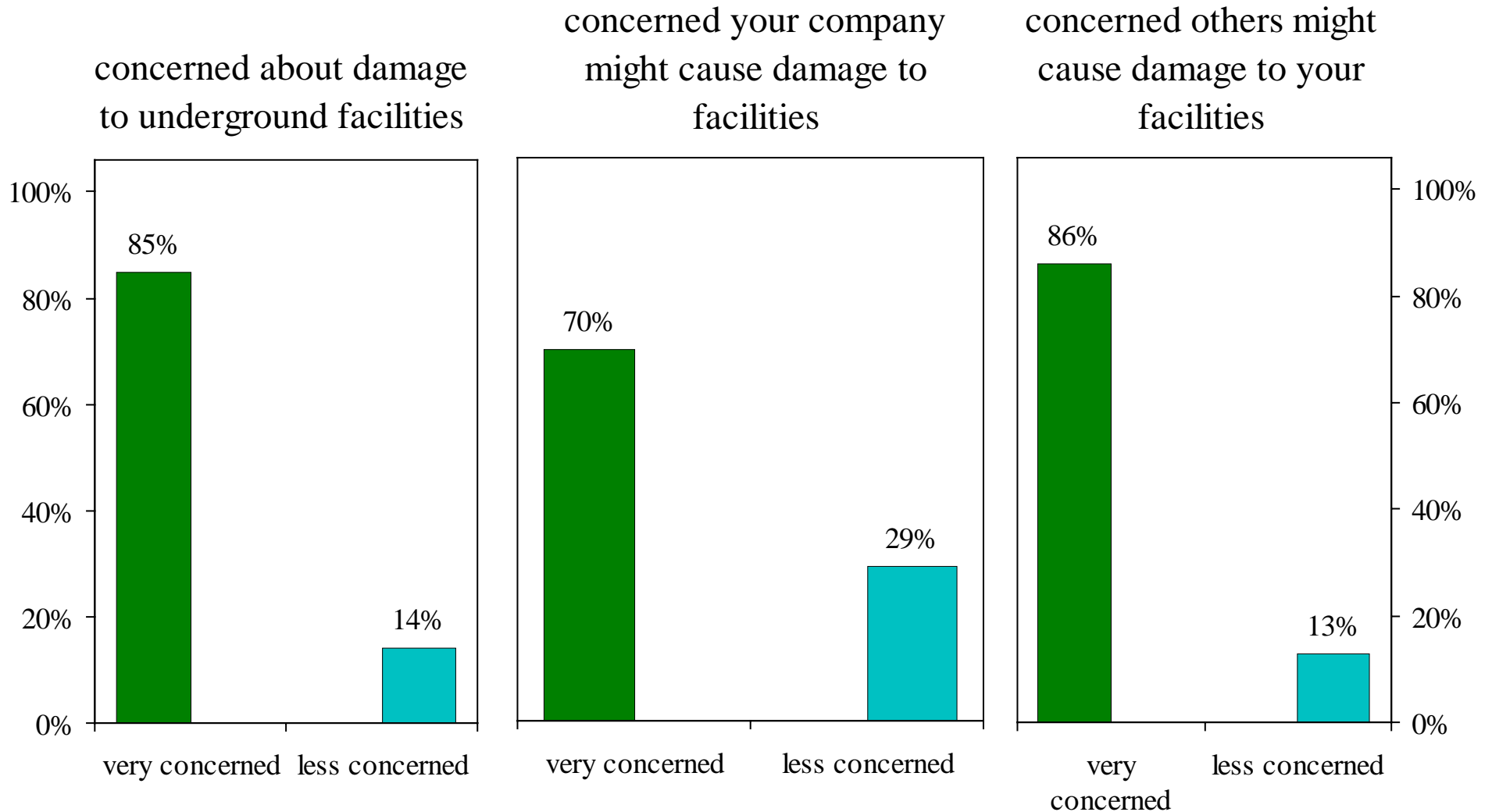
concerned about damage
to underground facilities



concerned your company might
cause damage to facilities

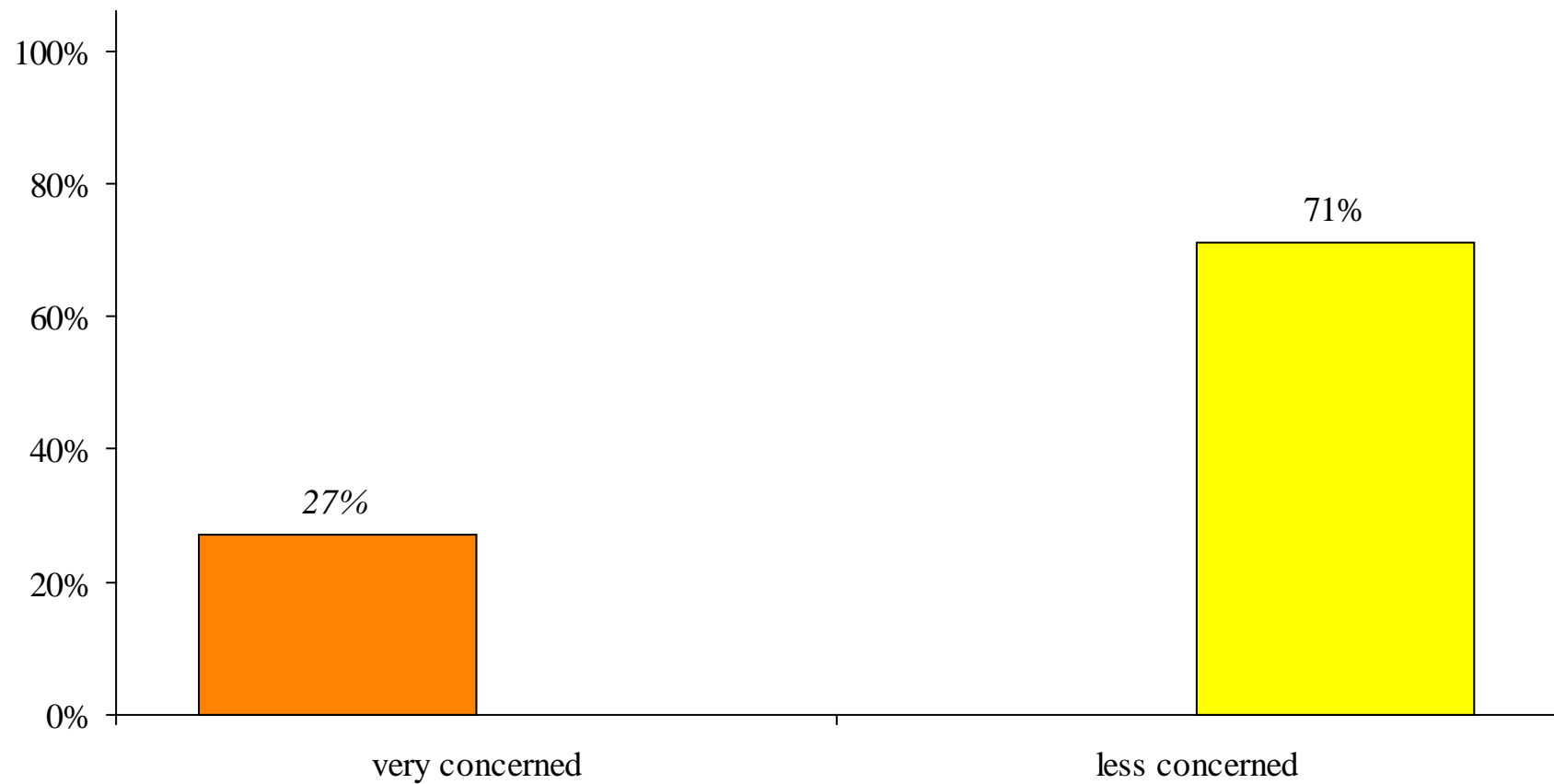


While Facility Operators Are Only Slightly Less Worried



In Comparison, The General Public Is Significantly Less Concerned

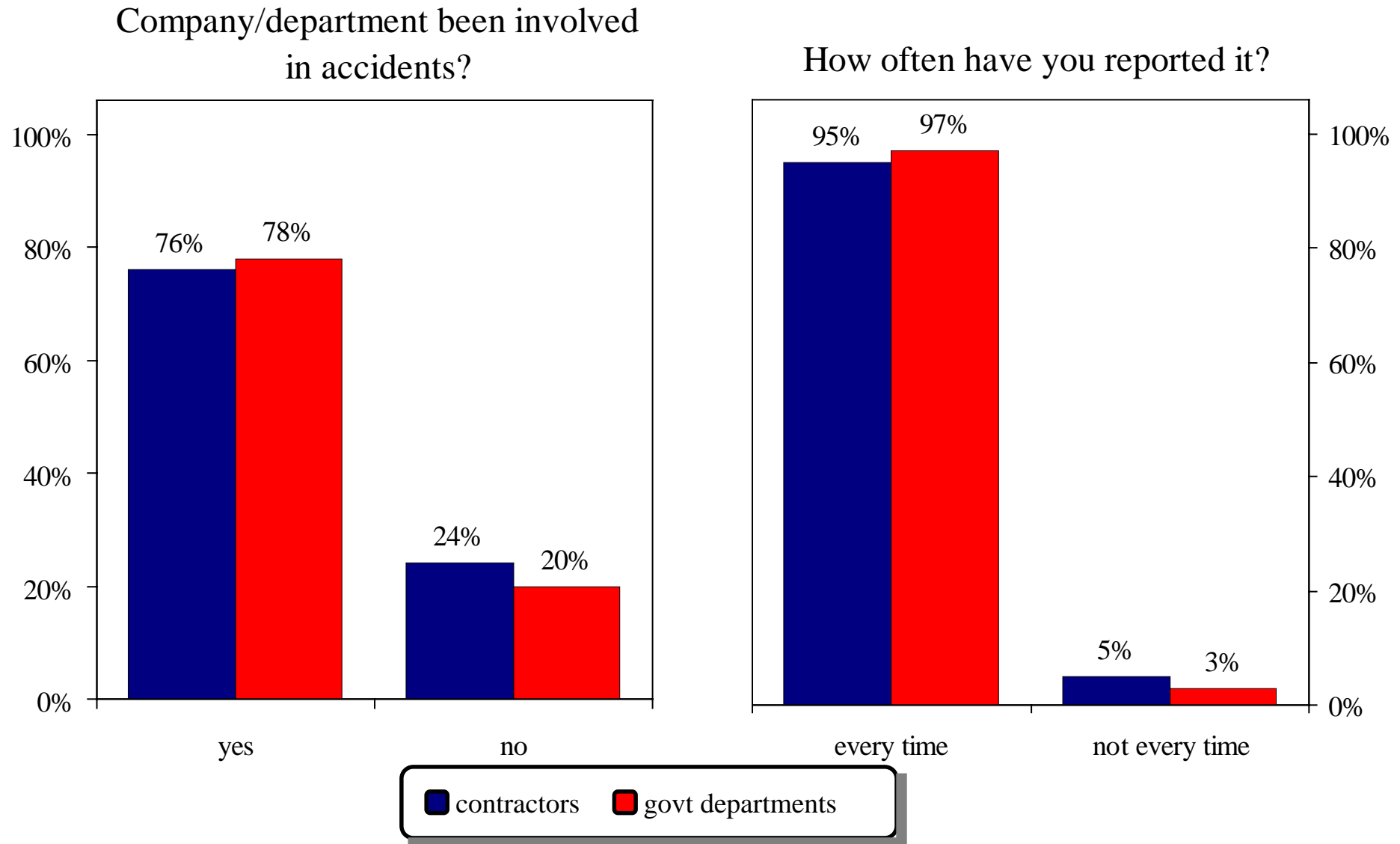
concerned about damage to underground facilities



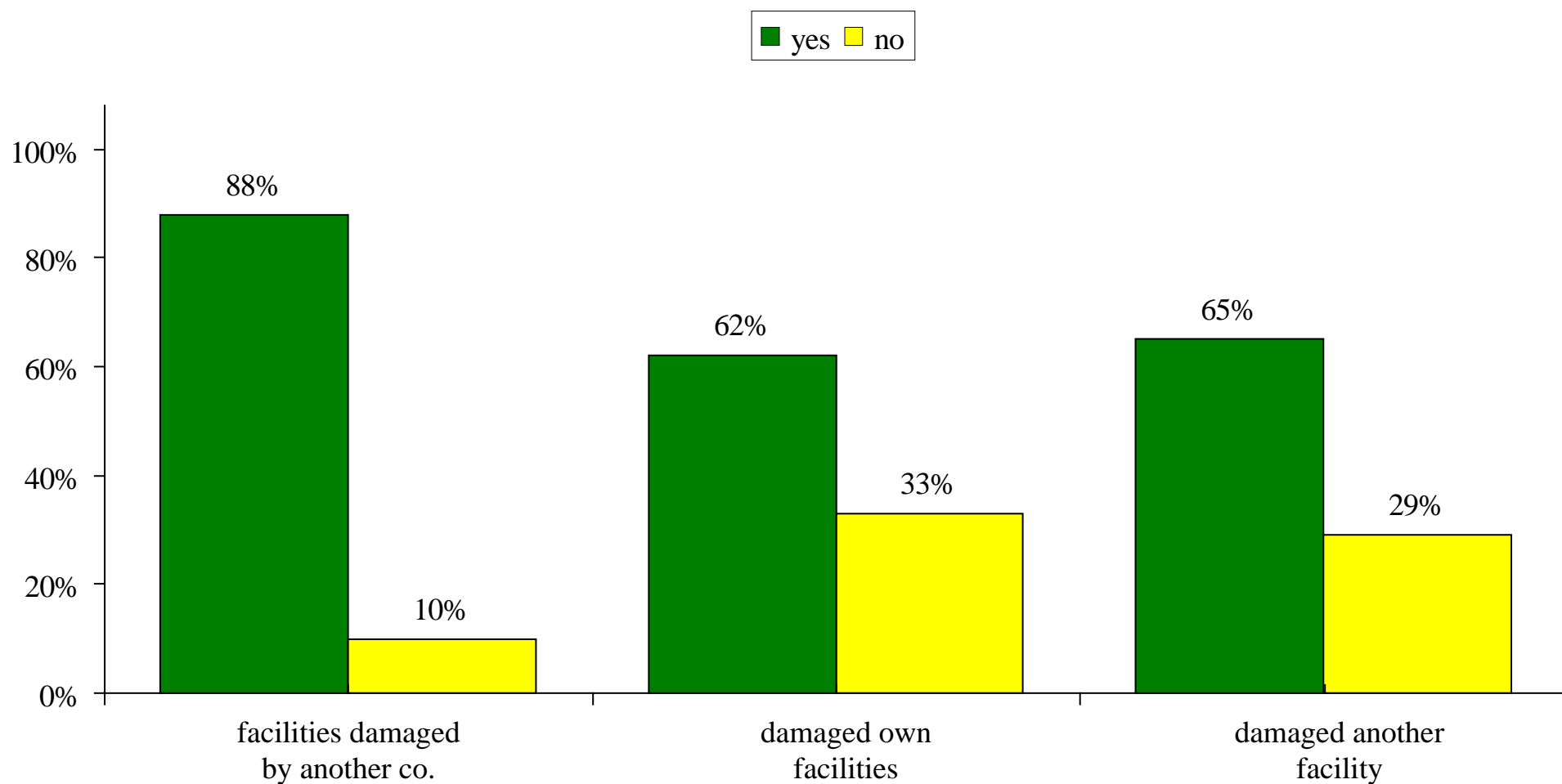
Accident Prevalence

- Large majorities of all the industry respondents report their organization has been involved in an accident that caused damage to an underground facility.
- Not surprisingly, the percentage is much smaller among the general public, although 7% of property owners report they have damaged an underground facility.

About Three-Quarters Of Contractors And Government Employees Have Been Involved In Accidents And Virtually Everyone Claims To Have Reported The Incident

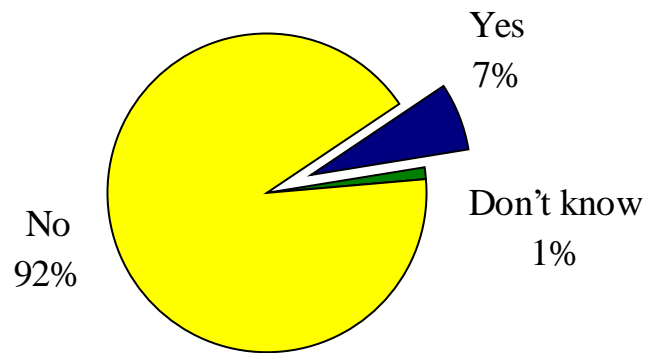


Most Facility Operators Have Been Involved In Accidents

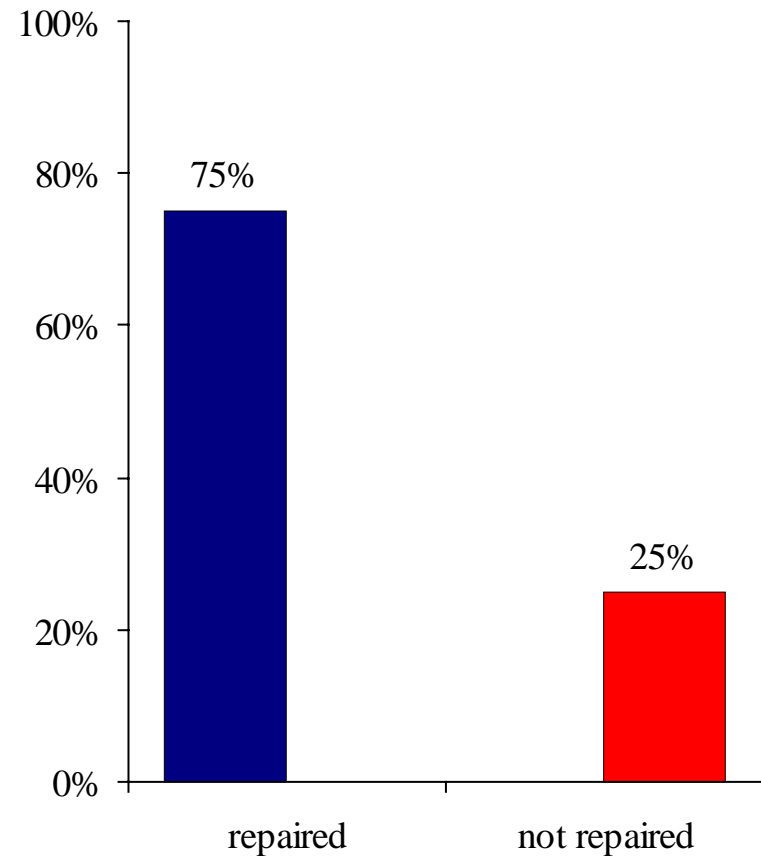


A Small Percentage Of The General Public Report Having Damaged Underground Facilities, Although Three-Quarters Of Those Say The Facility Needed Repairs

Have You Ever Damaged An Underground Facility While Digging On Your Property?



Was It Necessary For The Damage To Be Repaired By The Facility Operator?

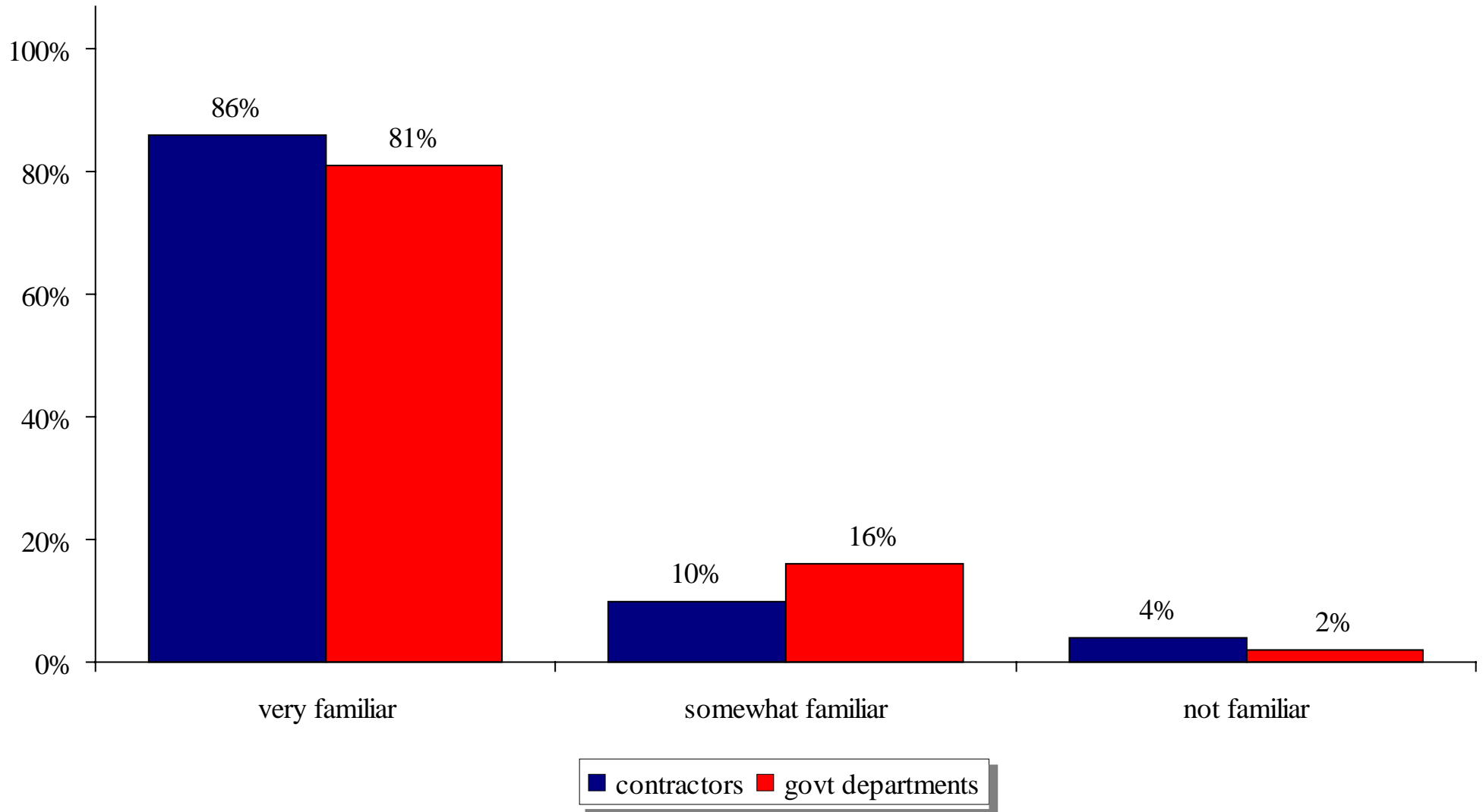


One Call Awareness, Usage, And Perceived Efficacy

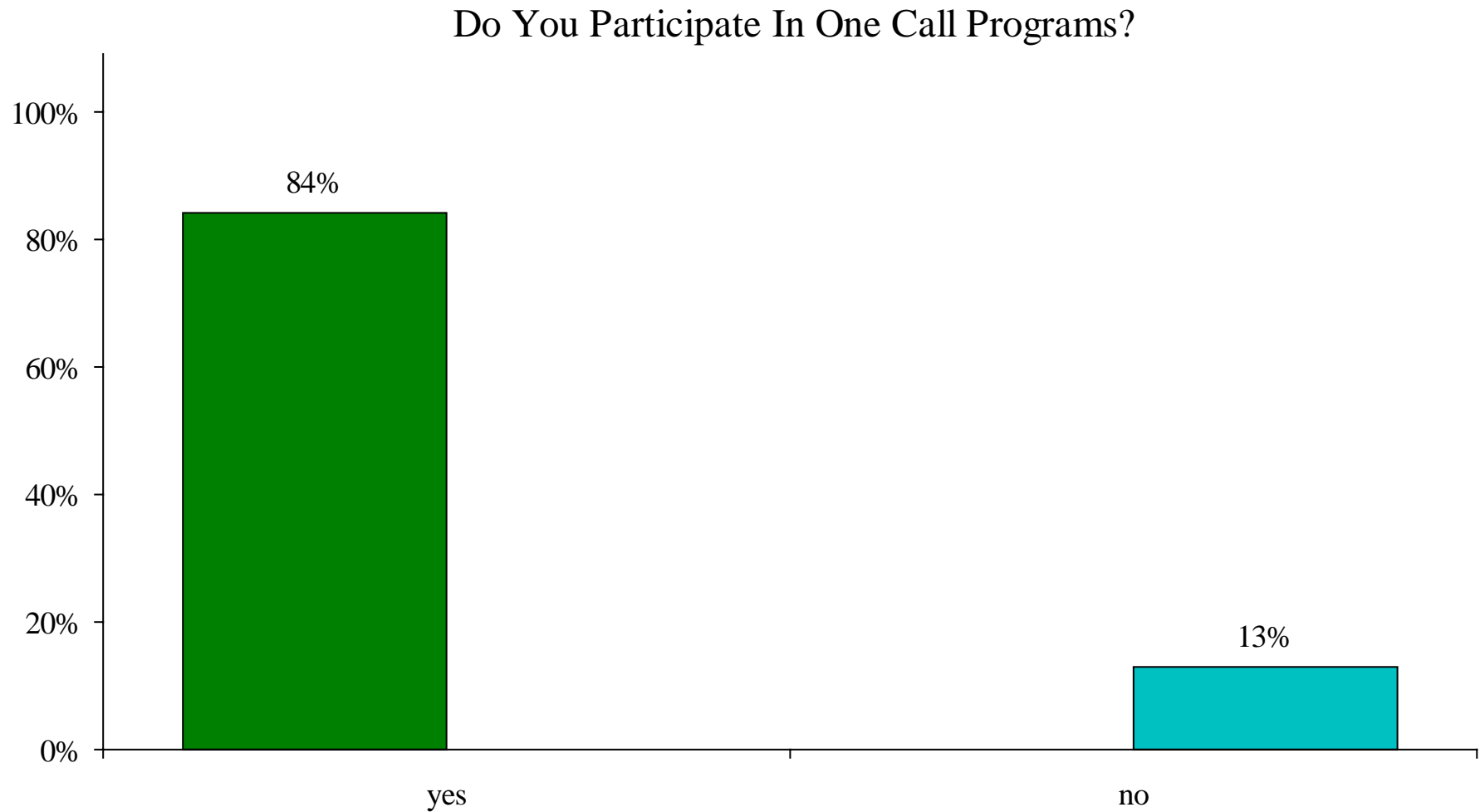
- Most contractors and government workers are familiar with One Call and most use the system. Most facility operators participate in a One Call Program.
- A large majority of contractors and government employees report they contact One Call regularly before excavating.
- A large majority of facility operators report they regularly provide excavators with facility location information before excavations.
- While the vast majority of the specialized respondents say that One Call Centers are very effective, two-thirds report they have been involved in accidents even after contacting and receiving information from a One Call Center.

More Than Four Out Of Five Excavators Report They Are Very Familiar With One Call Centers

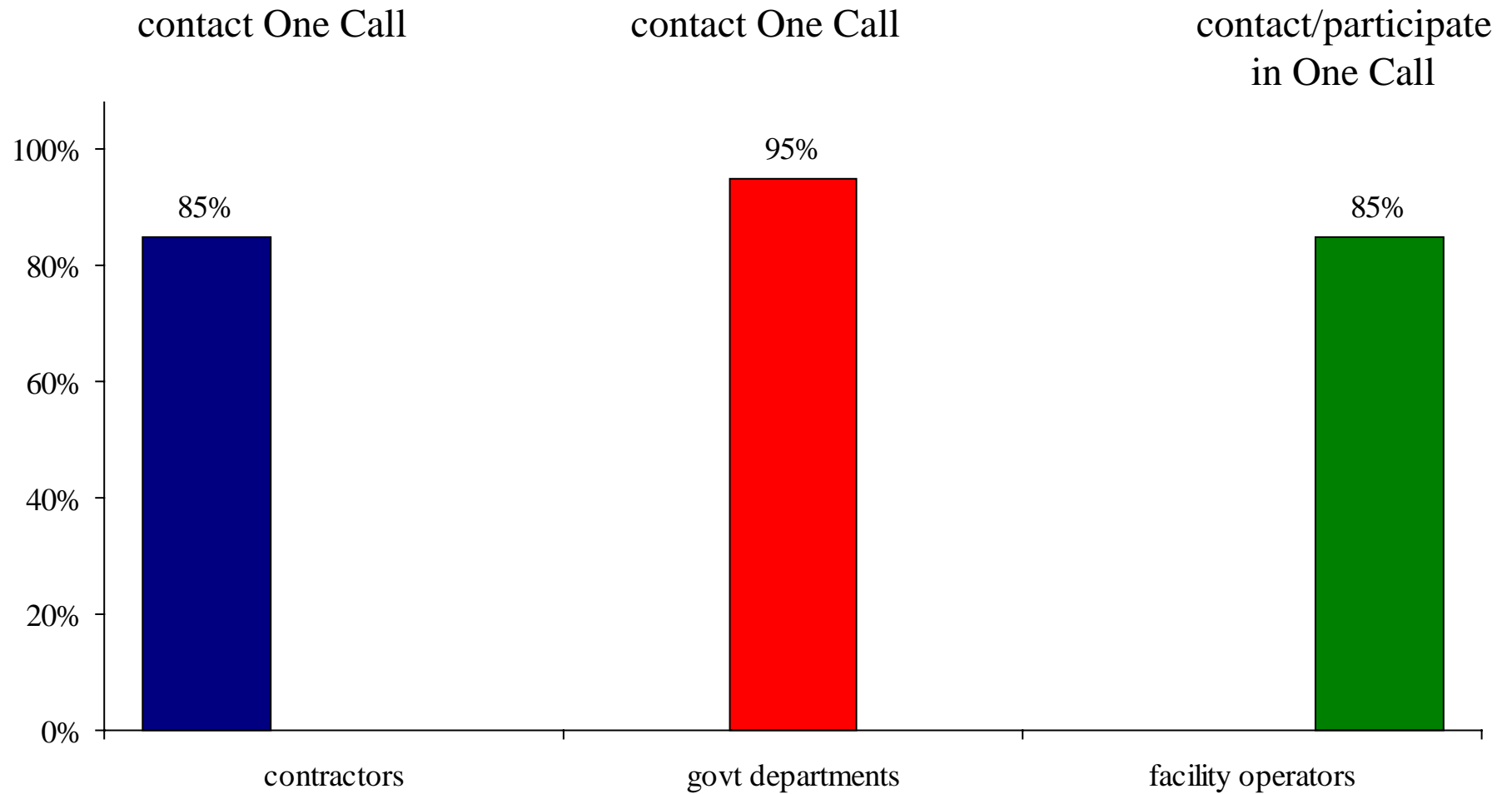
How familiar are your with One Call Centers?



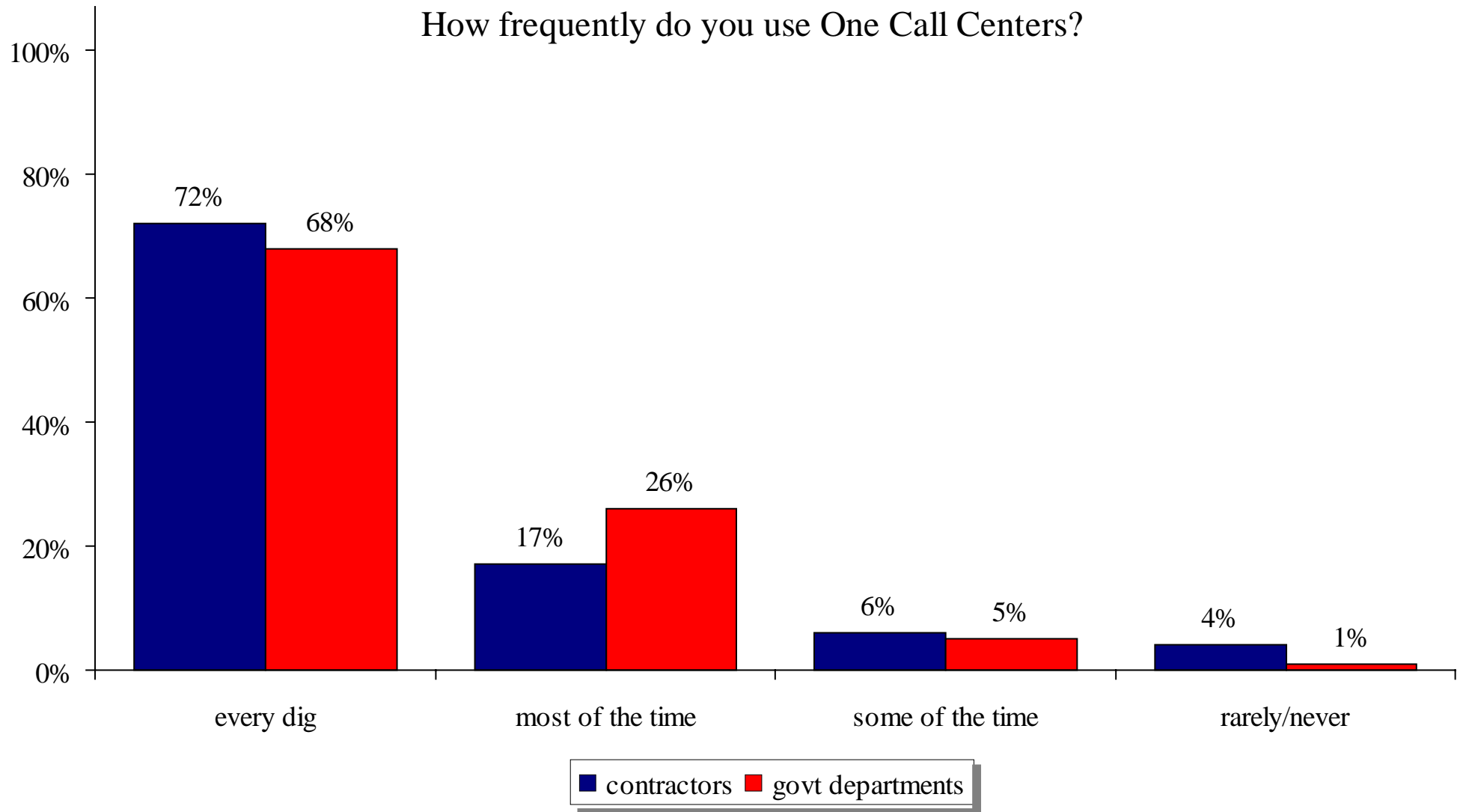
And Most Underground Facility Operators Participate In A Regional Or Statewide One Call Program



Most Claim To Use One Call

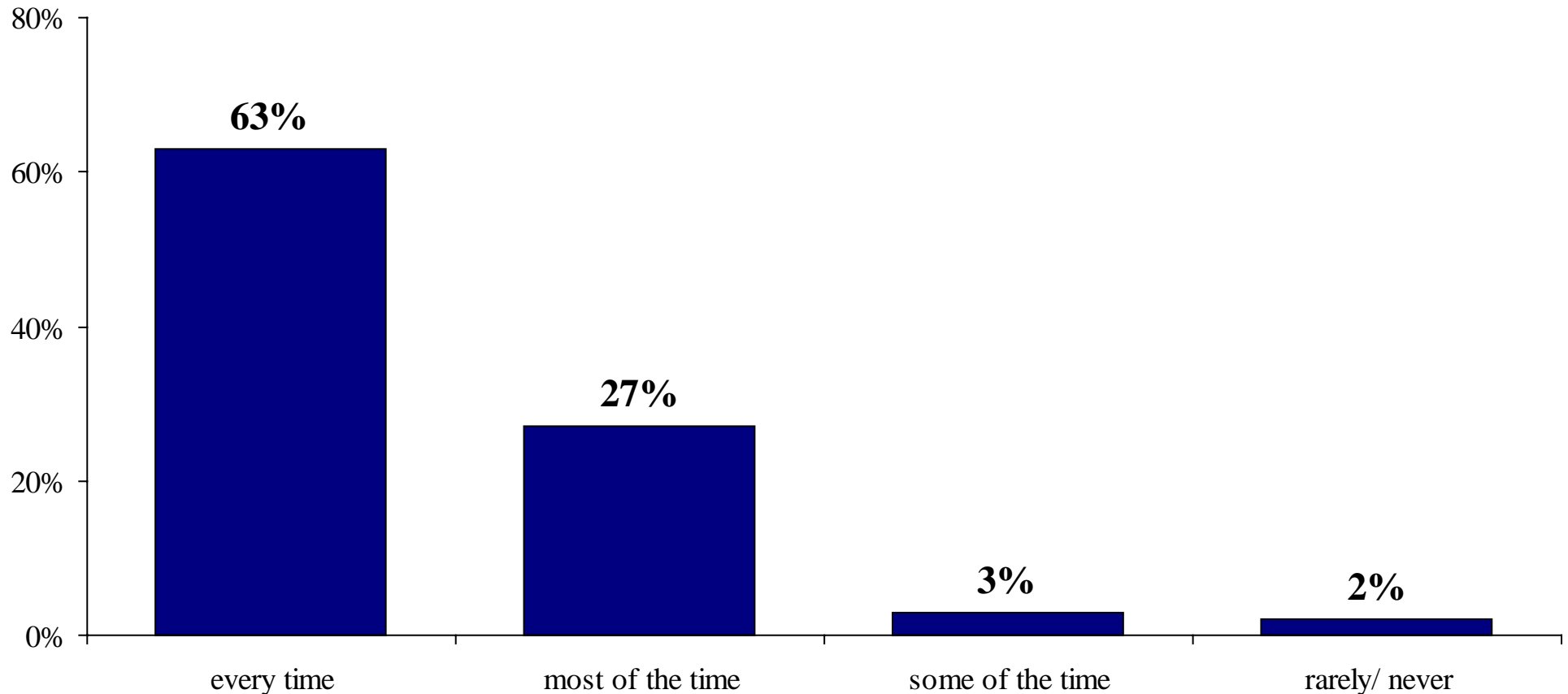


A Majority Of Excavators Report They Contact One Call Regularly Before Excavating



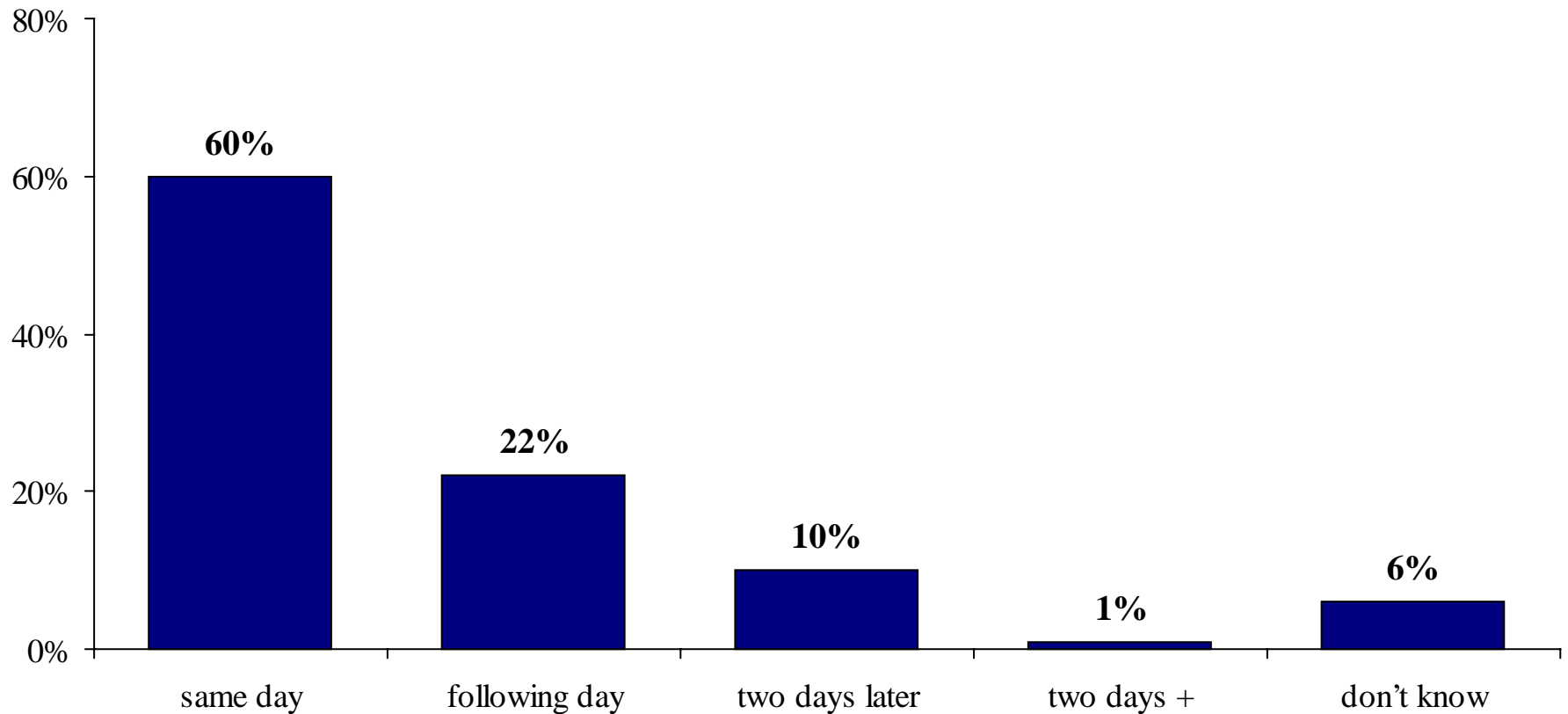
A Majority Of Facility Operators Report They Regularly Provide Excavators With Facility Location Information Before Excavations

Thinking about the times you have been contacted by a One Call Center, how regularly would you say you provided the excavator with facility location information before they begin their excavation?



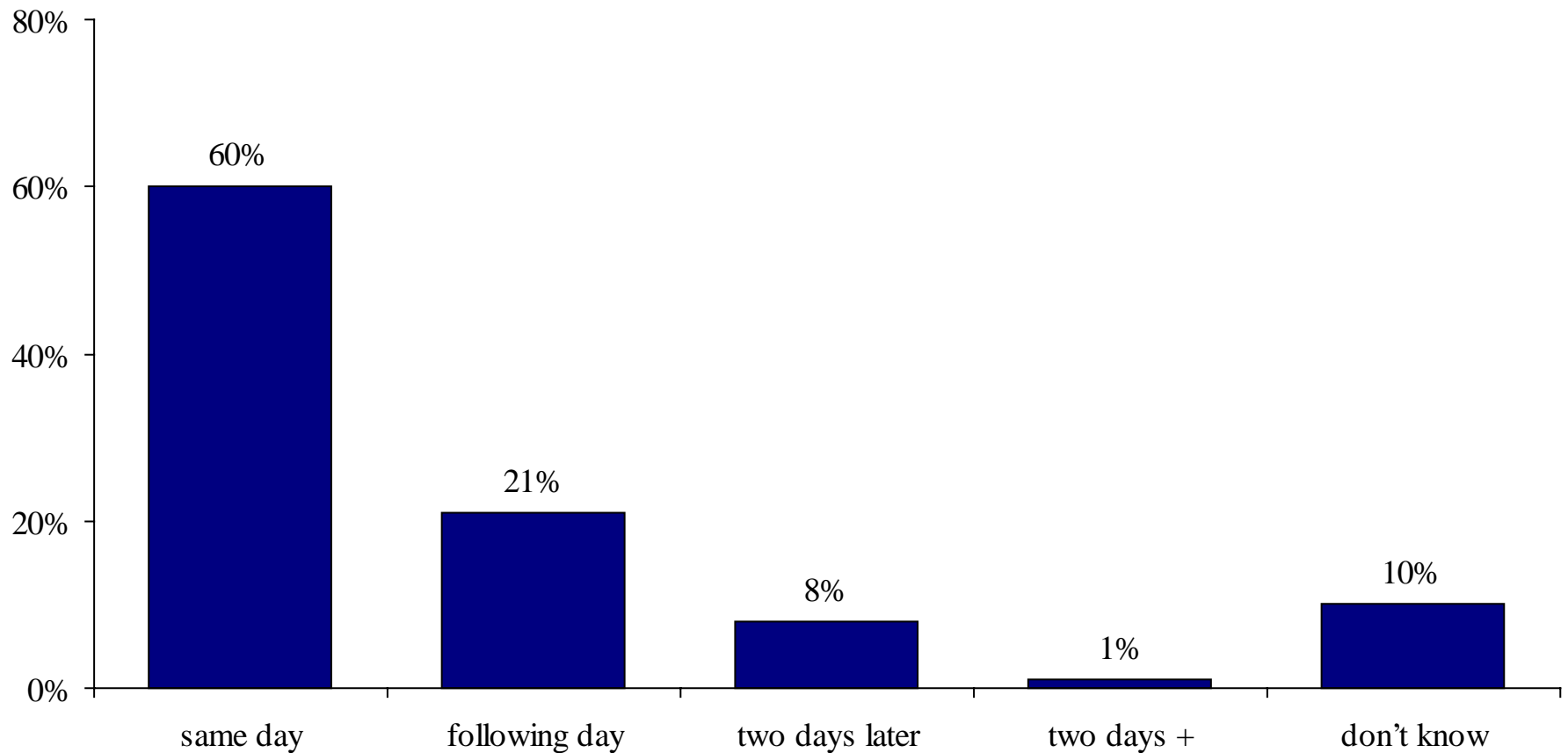
Three In Five Facility Operators Say They Are Able To Respond To Requests The Same Day

How quickly can you respond to requests from One Call Centers?



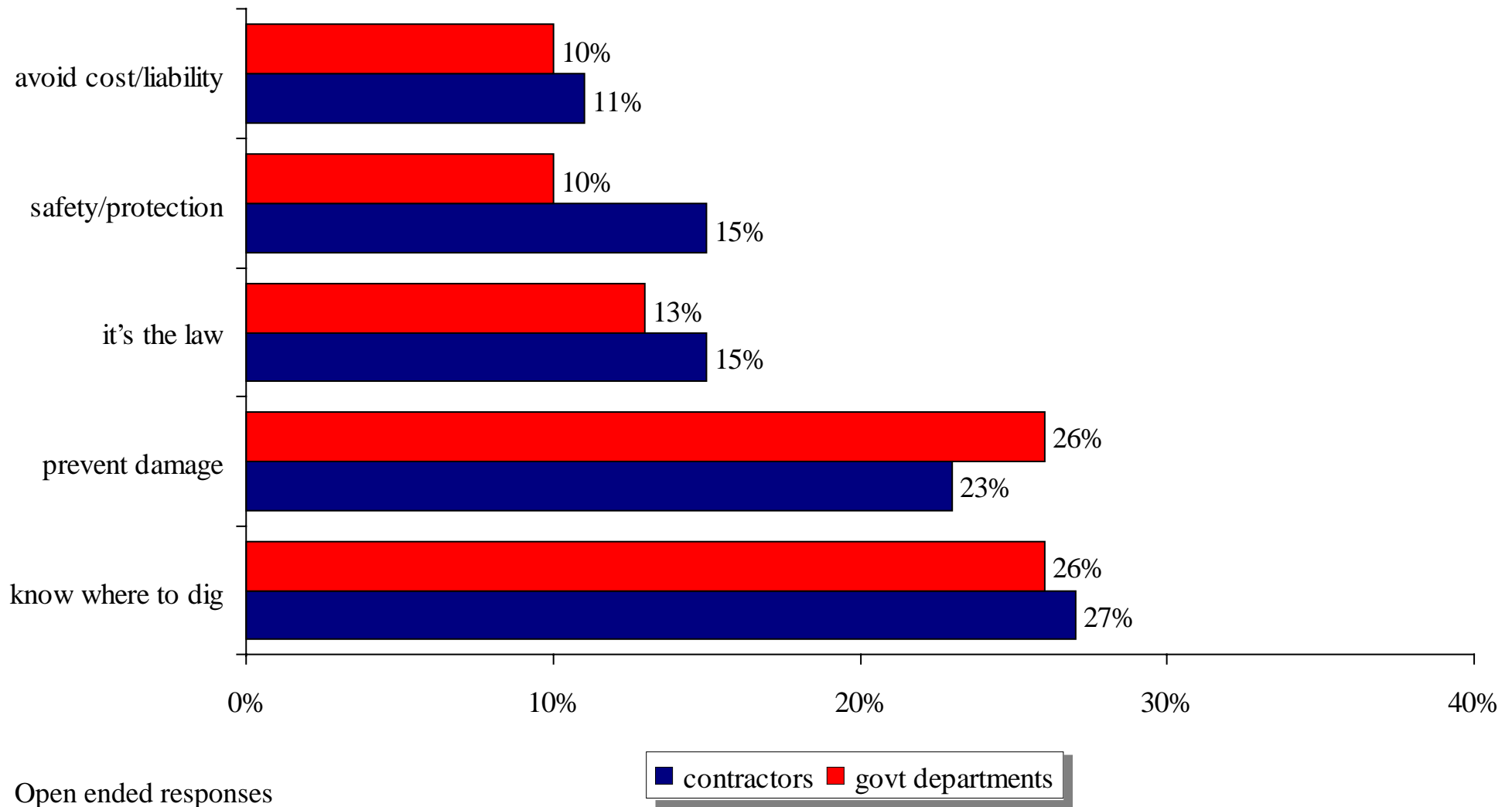
A Majority Of Facility Operators Report One Call Centers Are Prompt In Relaying Information Requests From Excavators

How prompt are One Call Centers in relaying exca



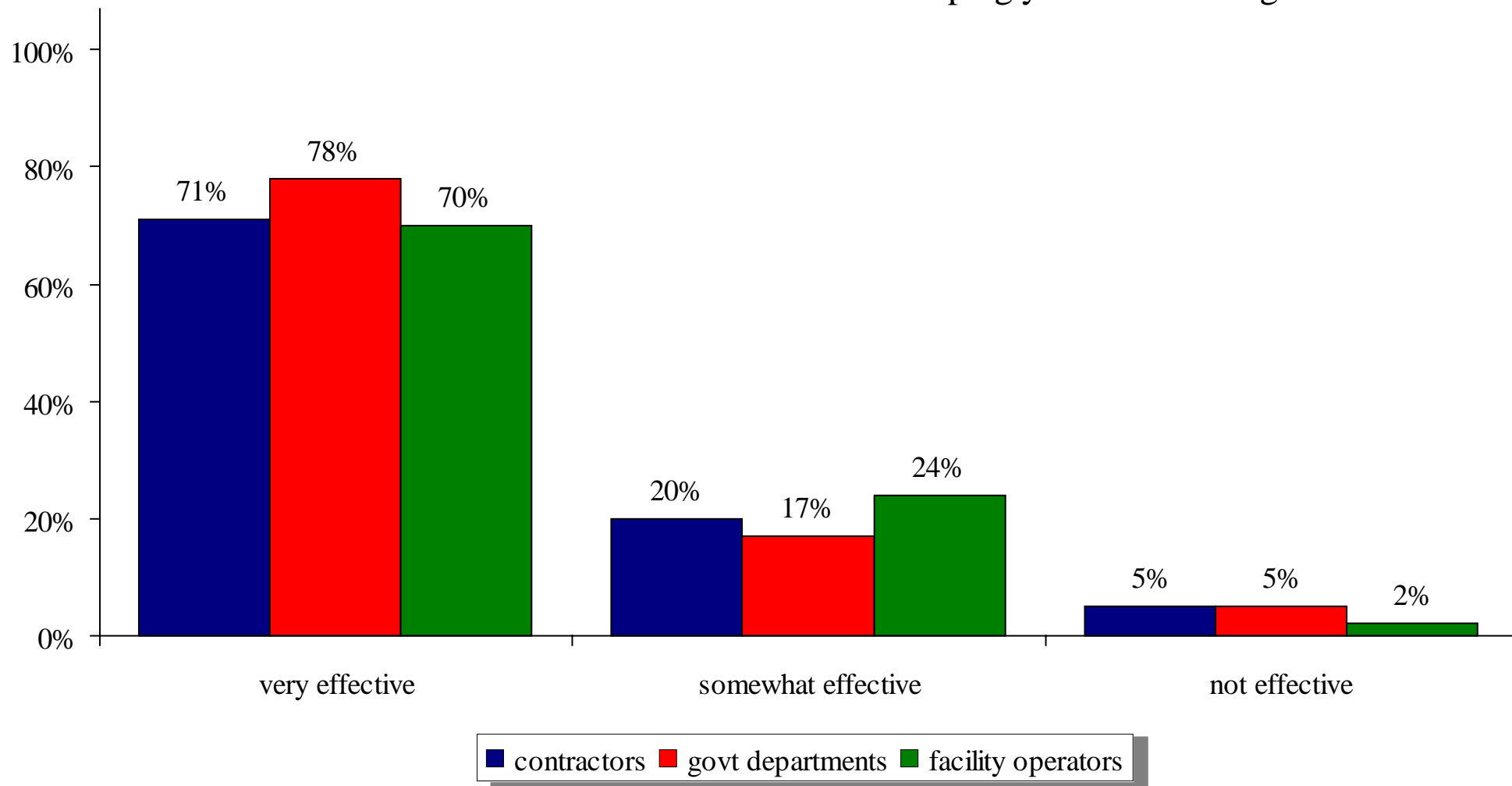
The Top Reasons To Use One Call Centers Are To Know Where To Dig And Prevent Damage

main reason to use One Call Centers



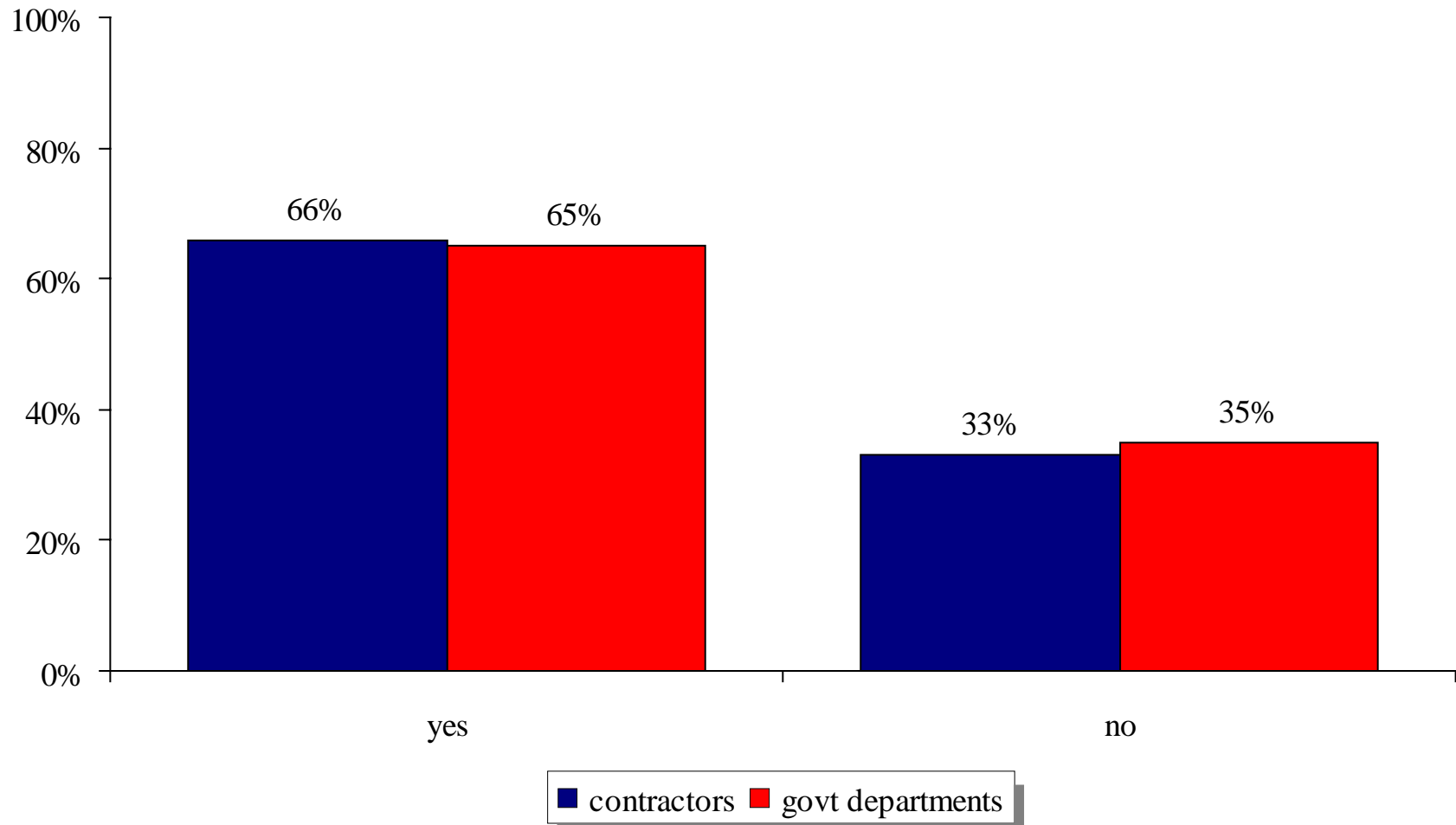
Large Majorities Claim That One Call Centers Are Very Effective

How effective are One Call Centers in helping you avoid damage?

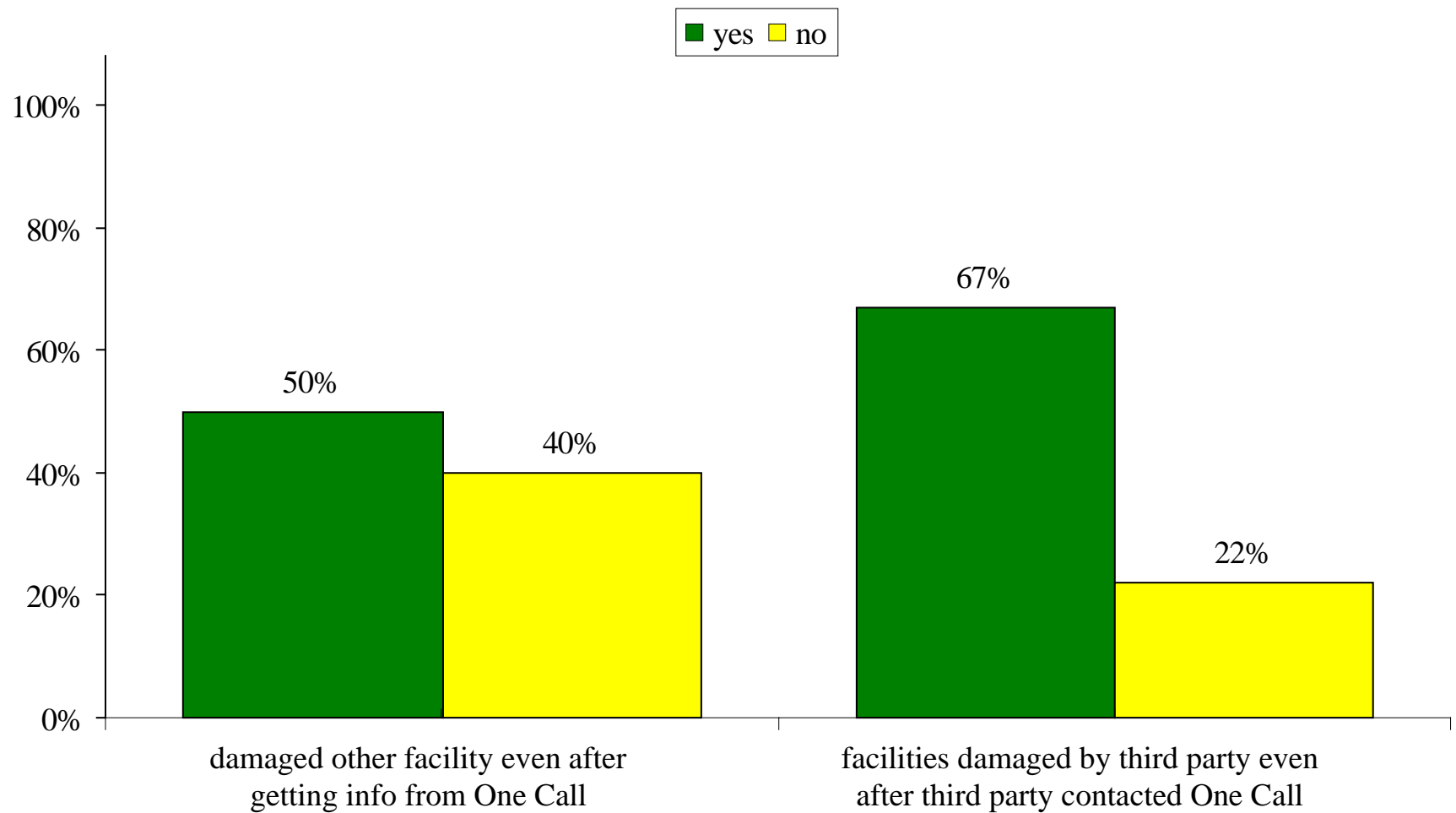


However, About Two-Thirds Have Been Involved In An Accident Even Though They Had Contacted And Received Information From A One Call Center

Company/department been involved in accidents even after contacting a one call center?



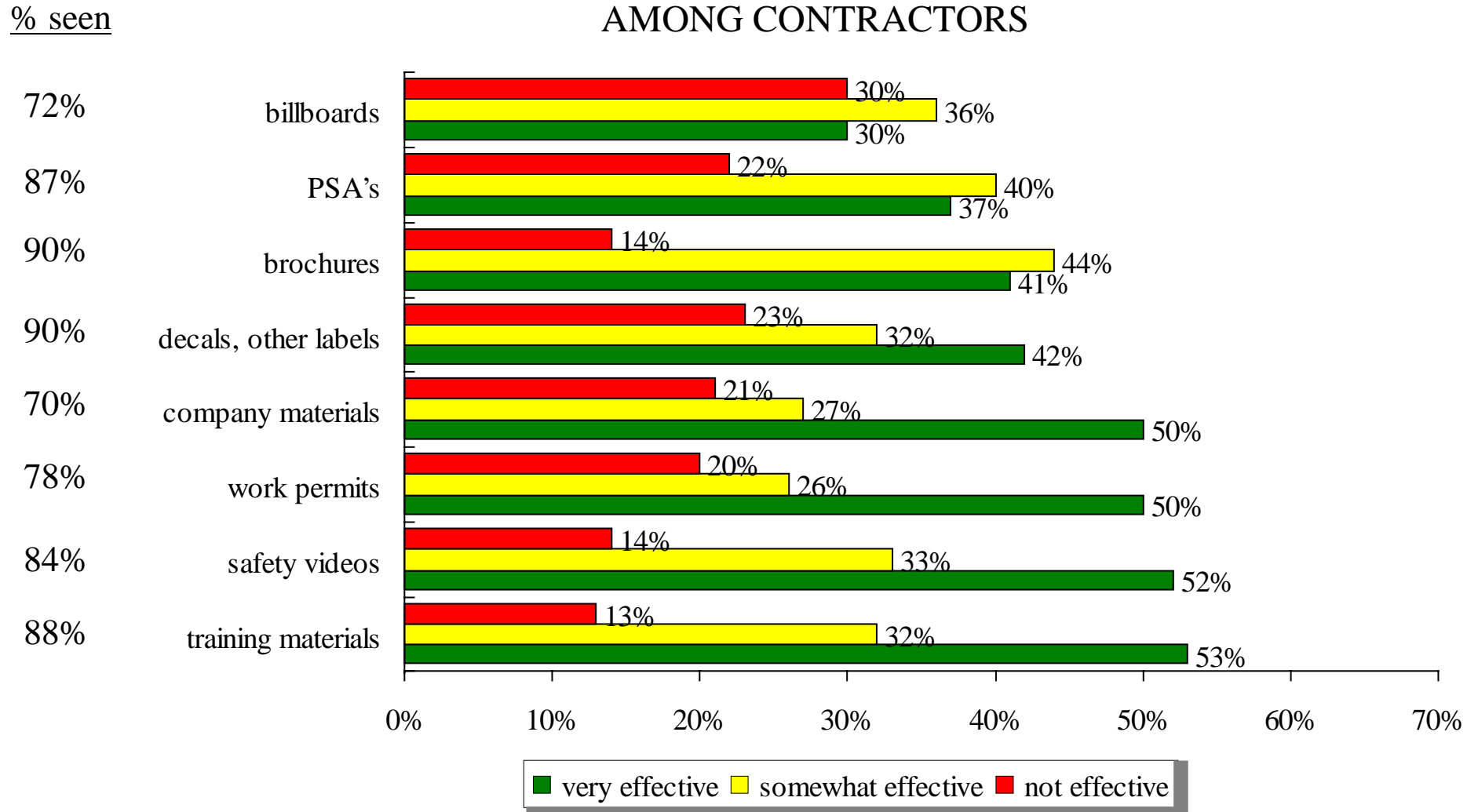
A Majority Of Facility Operators Have Experience With Accidents Even When One Call Has Been Utilized



One Call Message Delivery

- Most specialized respondents are familiar with the various One Call message delivery vehicles.
- Training materials, safety videos, and work permits are perceived to be the most effective communication tools

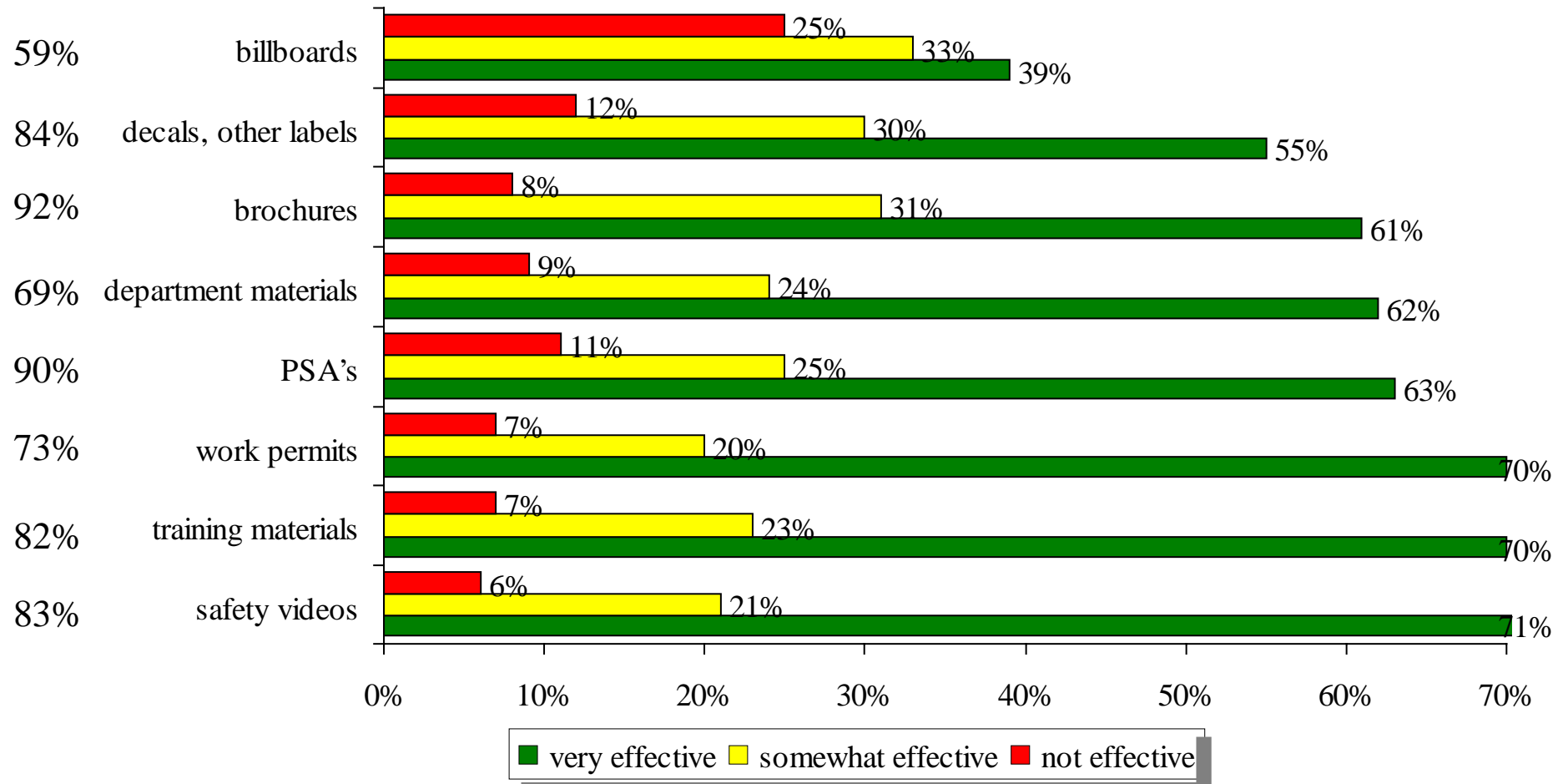
While Brochures And Decals Are Most Likely To Have Been Seen By Contractors, Training Materials, Safety Videos, And Work Permits Are Perceived To Be Most Effective



A Similar Pattern Is Evident Among Government Workers, Although They Are More Inclined To View All Of The Sources As Very Effective

% seen

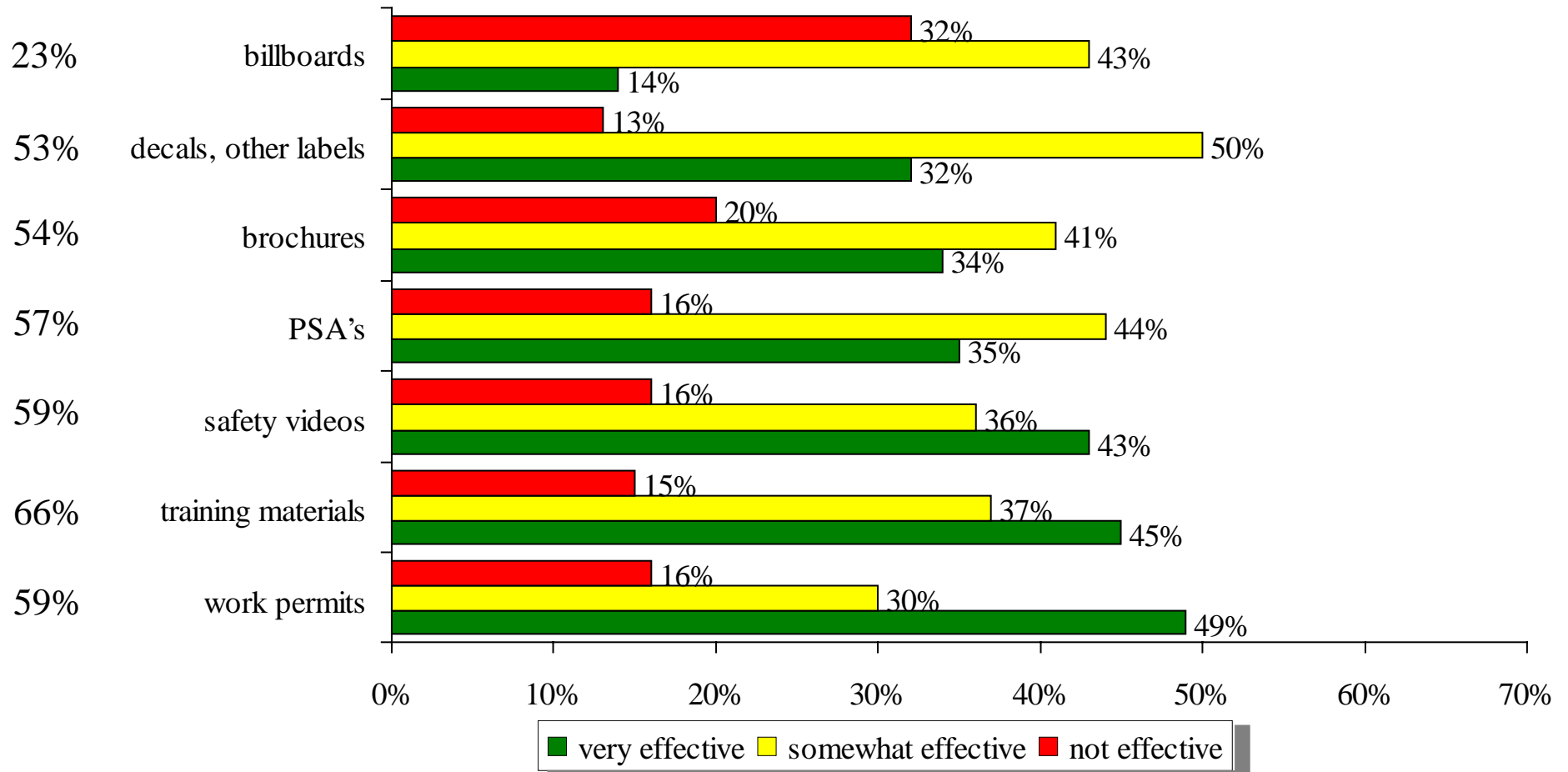
AMONG GOVERNMENT EMPLOYEES



Facility Operators Rate Work Permits, Training Materials, And Safety Videos As The Most Effective Methods Of Disseminating Information About One Call Centers

% seen

AMONG FACILITY OPERATORS

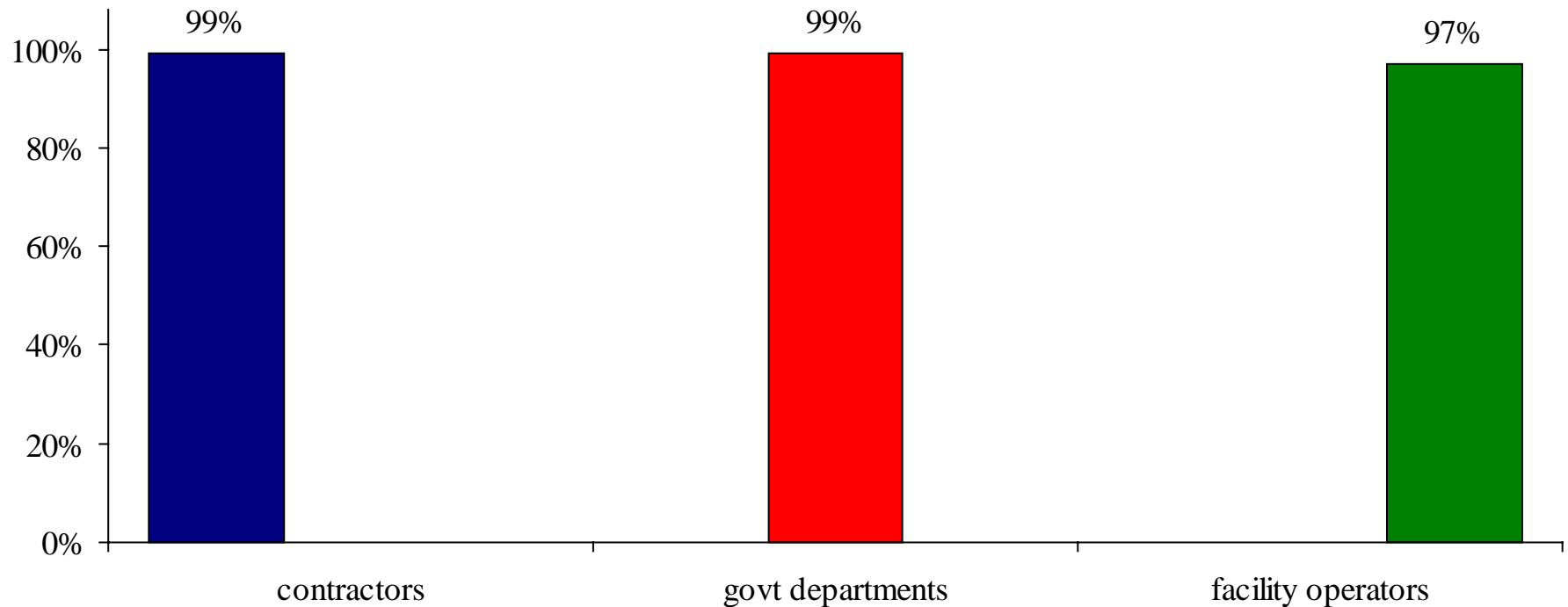


Damage Prevention Efforts

- Virtually all respondents from the specialized groups report they take steps to prevent damage to underground facilities.
- Participation in One Call is very high among all three specialized groups.
- While government departments are most likely to report using One Call before excavating, contractors and facility operators are considerably more likely to utilize other damage prevention methods.
- In addition to One Call, specialized respondents cite a number of damage prevention methods as effective and practical.

Virtually Everyone Reports Their Organization Takes Steps To Prevent Damage

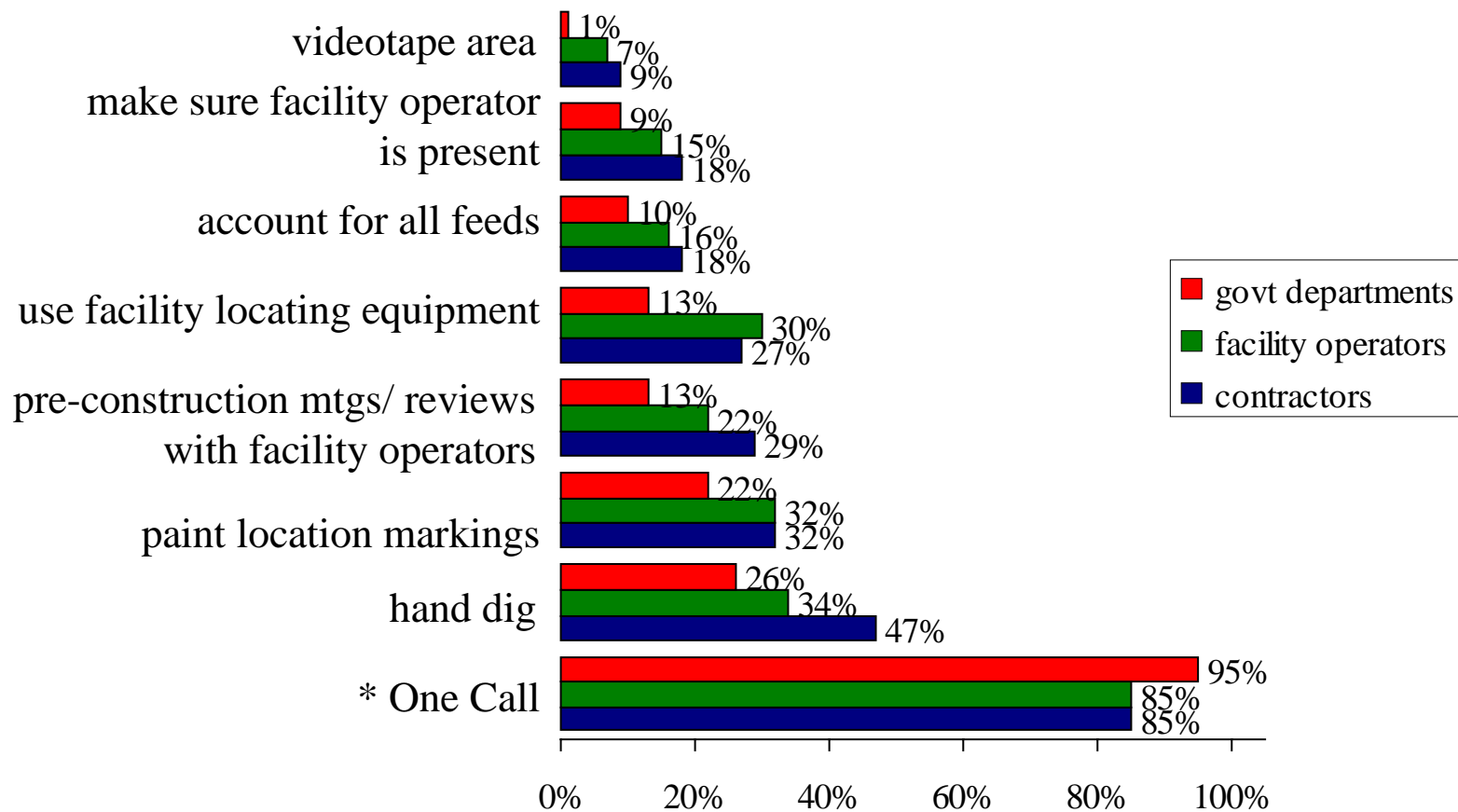
Does your company/department take steps to prevent damage to underground facilities?



While Government Departments Are More Likely To Use One Call, Contractors Are More Likely To Take Additional Steps To Prevent Damage

Facility Operators Are Also More Likely Than Government Departments To Take Additional Steps

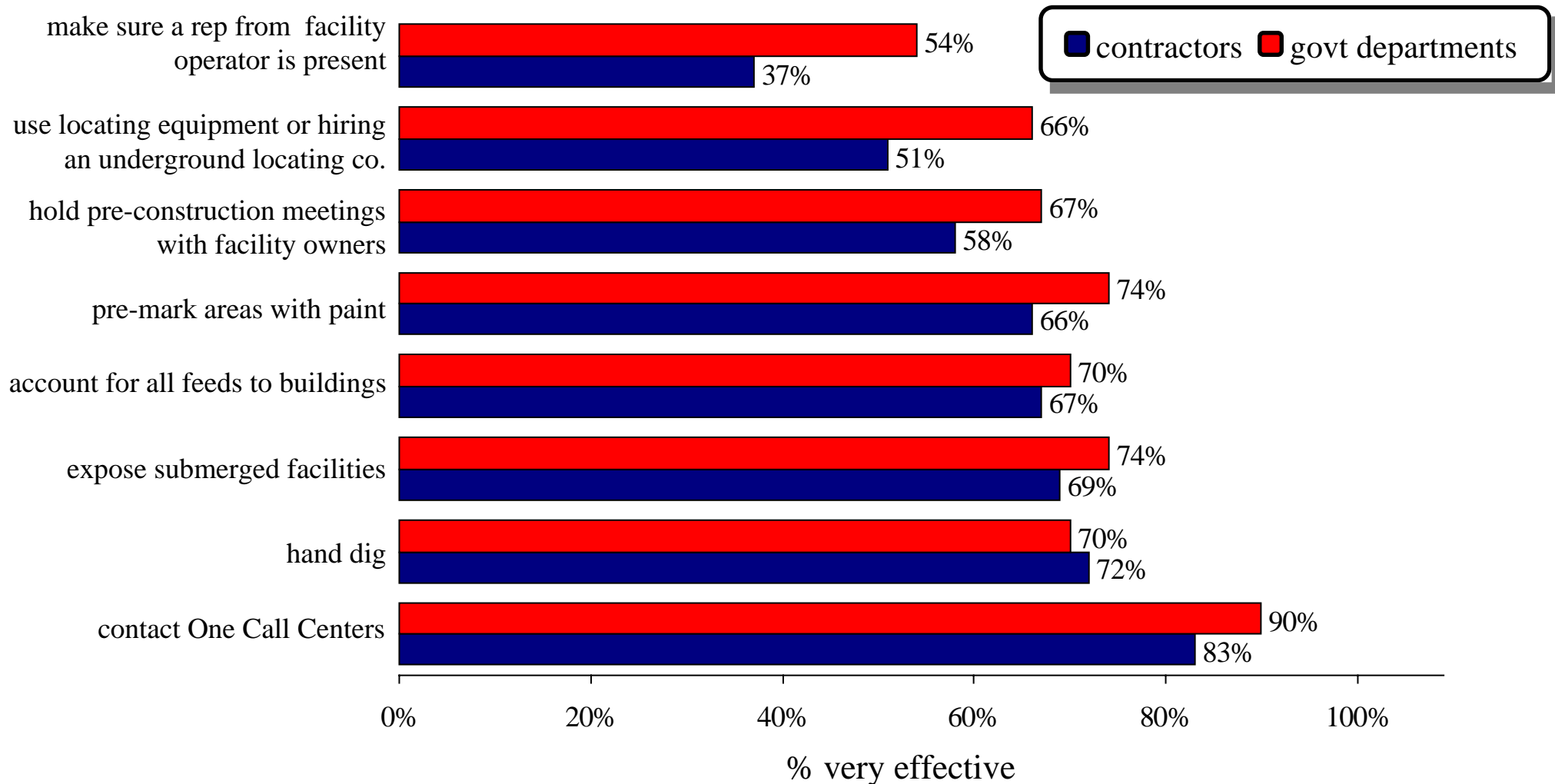
OPEN-ENDED RESPONSES



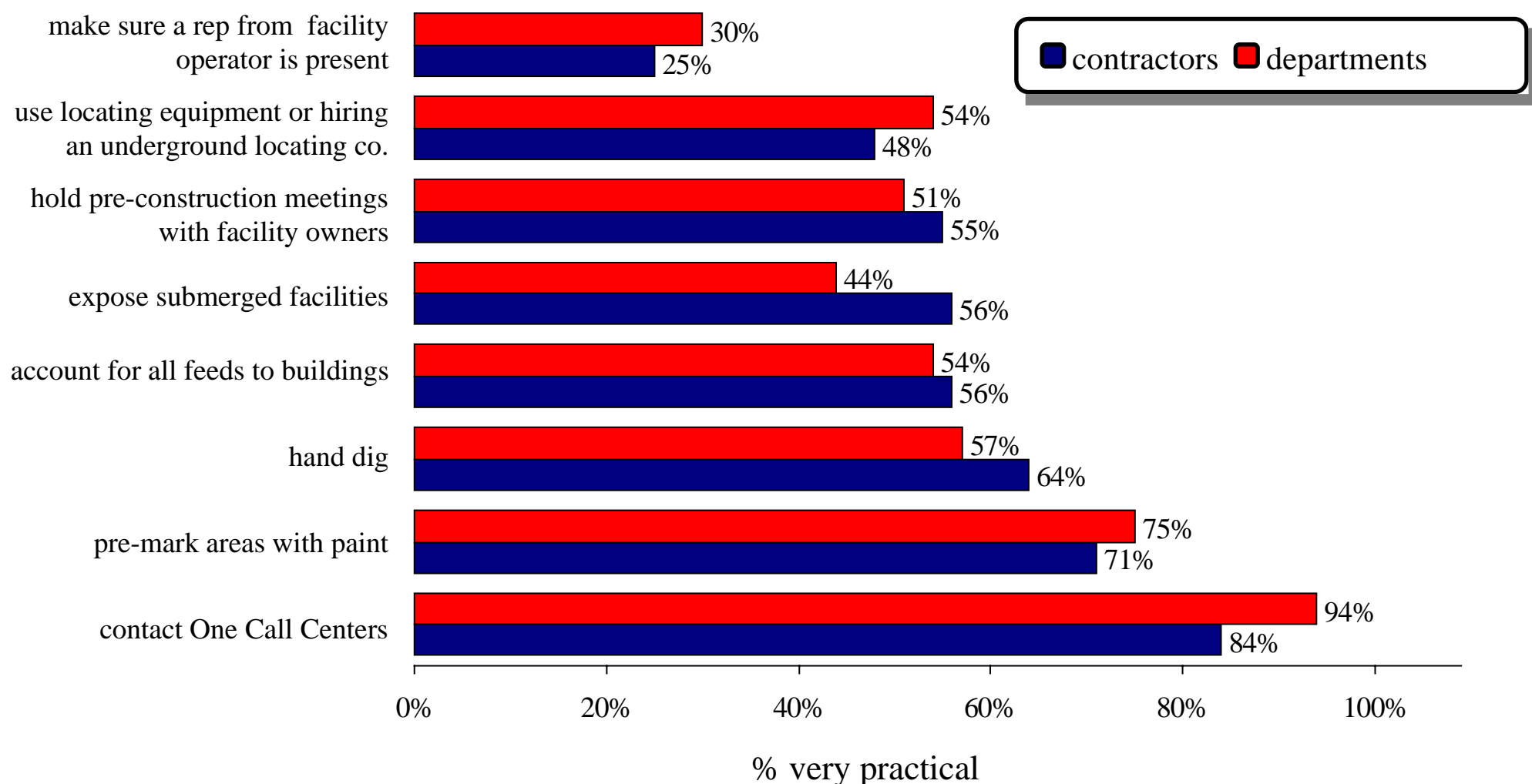
* facility operators: contact and/or participate in One Call

Among Contractors And Government Workers, Contacting One Call Service Centers Is Viewed As The Most Effective Damage Prevention Measure

-- Although Virtually Every Item Is Endorsed By A Majority --

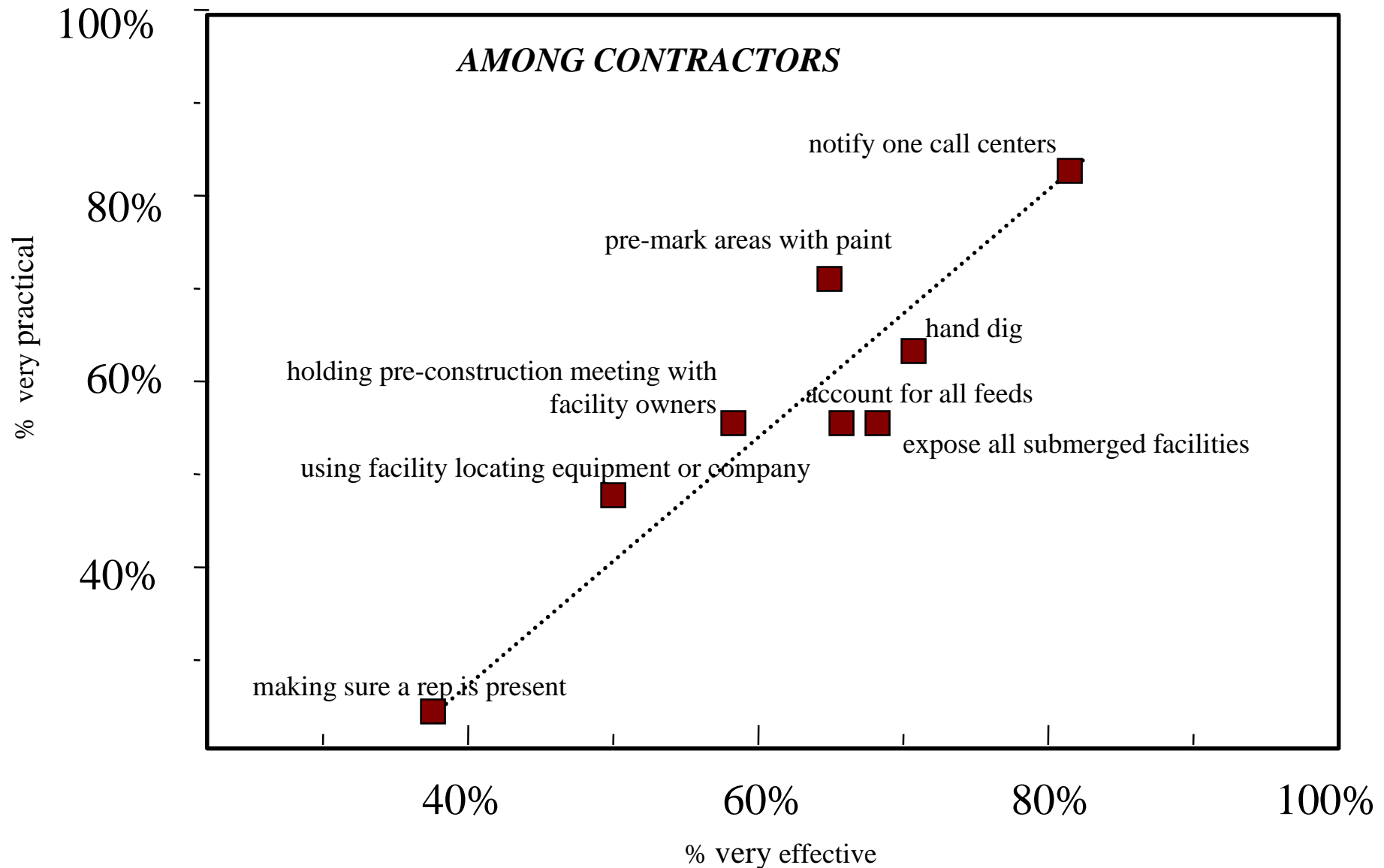


Government Workers And Contractors Have Similar Views About The Practicality Of The Various Measures, Although They Differ Most On One Call, Location Equipment/Services, And More Labor-Intensive Measures

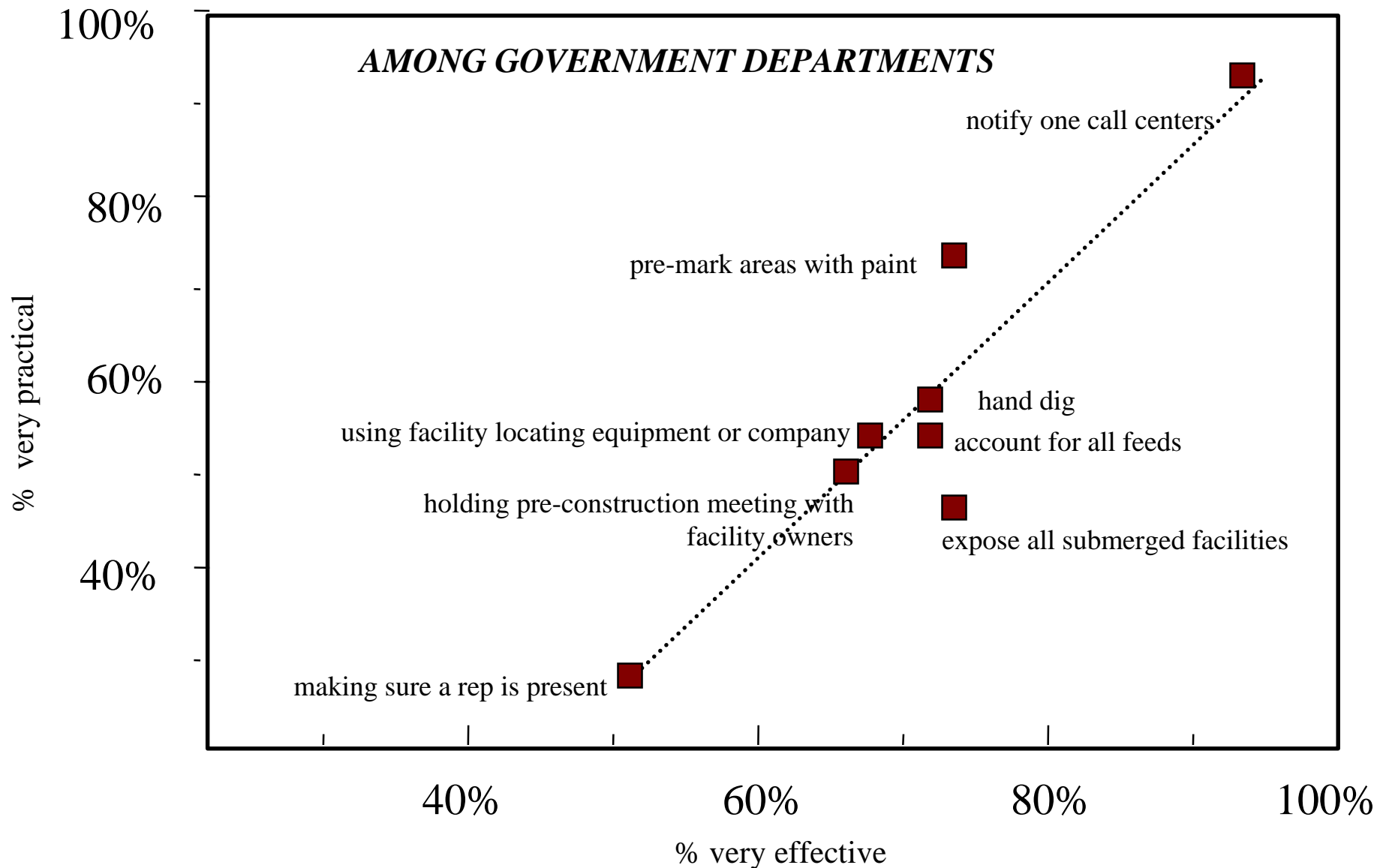


Among Contractors, Effectiveness And Practicality Are Highly Correlated

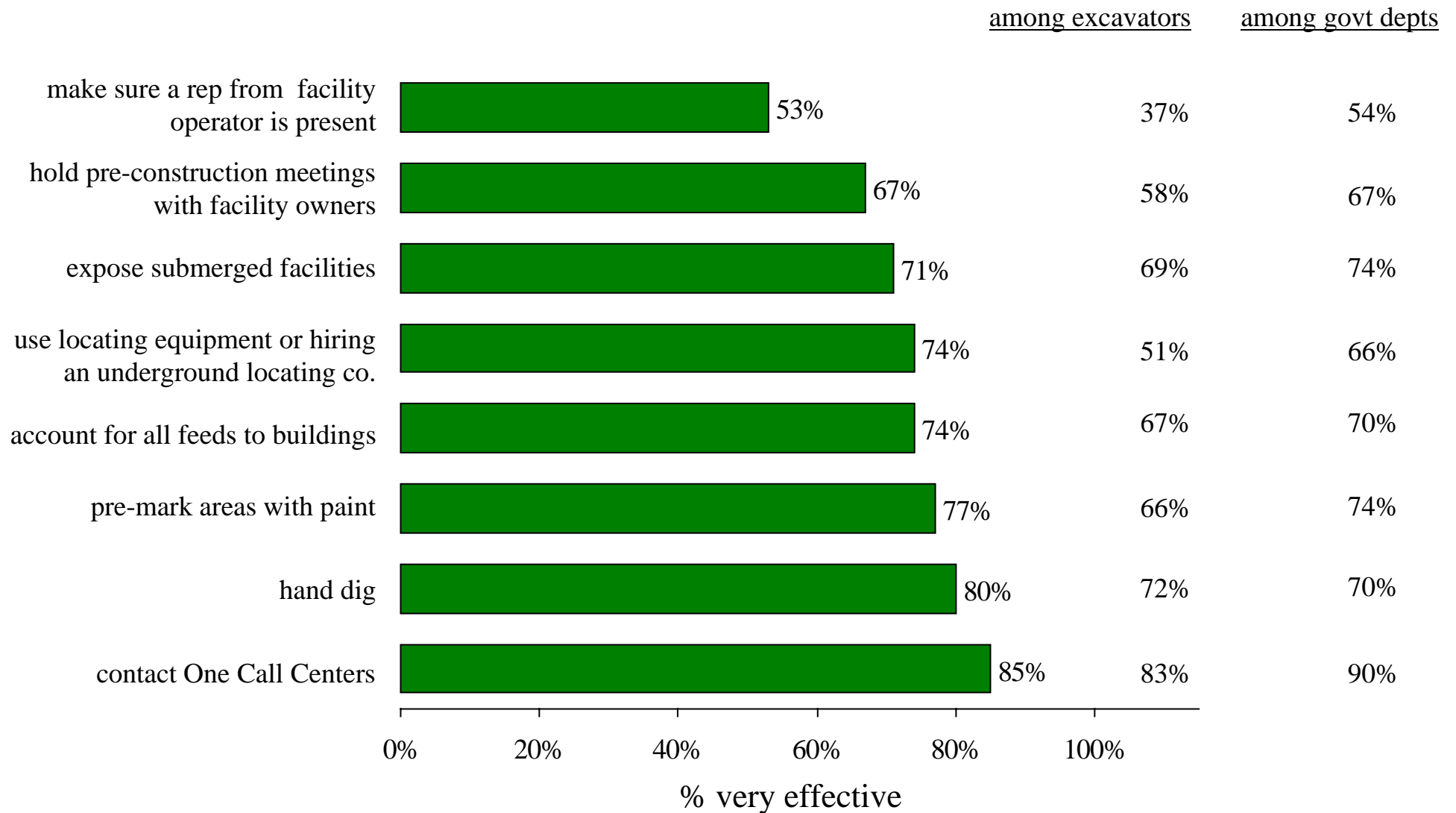
-- Although Labor-Intensive Measures Are Seen As Slightly Less Practical --



A Similar Pattern Is Evident Among Government Workers



Except For One Call, Facility Operators Are Most Likely To Cite The Efficacy Of Other Preventive Measures

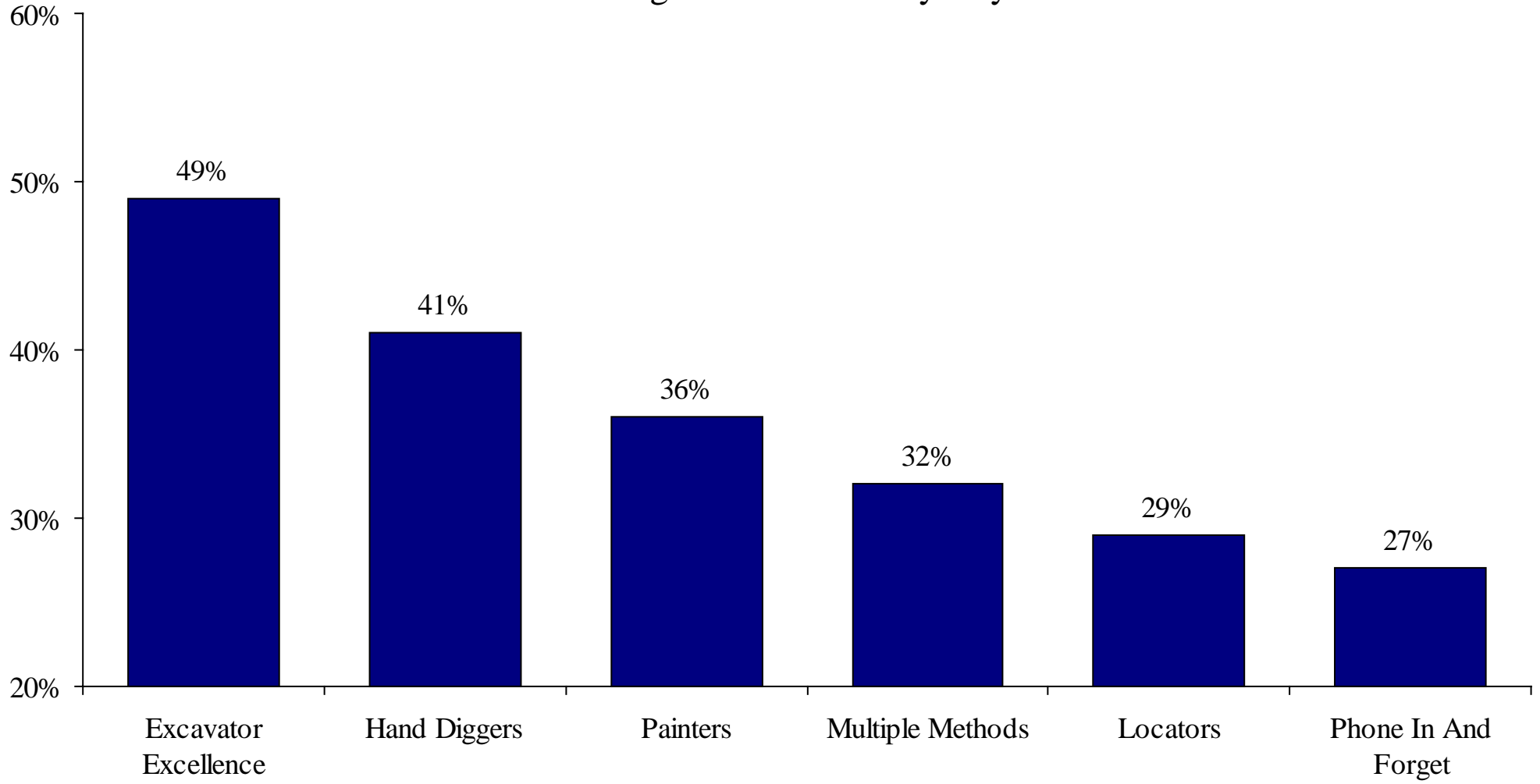


Government Departments And Contractors Divide Into Six Different Groups

- "Phone In and Forget About It"
 - 44% of the sample, 33% of contractors, 56% of govt employees: these individuals just use One Call as their only resource before digging; much more likely to be a government worker than a contractor.
- "Hand Diggers"
 - 20% of the sample, 24% of contractors, 15% of govt employees: these workers use One Call as a resource and then hand dig to make sure they don't hit facilities; more likely to be a contractor.
- "Locators"
 - 12% of the sample, 14% of contractors, 9% of govt employees: these workers primarily use facility locating equipment or services as their primary preventative step, some augment that with using One Call; more likely to be a contractor.
- "Painters"
 - 9% of the sample, 7% of contractors, 11% of govt employees: these workers use One Call as a resource and then rely on painted location markings to make sure they don't hit facilities; more likely to be a government worker.
- "Multiple Methods"
 - 8% of the sample, 10% of contractors, 7% of govt employees: these workers use One Call, review with facility owners, hand dig, rely on painted location markings, and half use locating equipment; somewhat more likely to be a contractor.
- "Excavator Excellence"
 - 8% of the sample, 12% of contractors, 1% of govt employees: these workers use One Call, facility locating equipment, meet with facility owners, videotape, hand-dig, rely on painted location markings, make sure rep is present during excavation, account for a feeds into areas; almost all are contractors.

Those Who Dig Daily Are Most Likely To Be In The "Excavator Excellence" Cluster

% Dig Just About Every Day

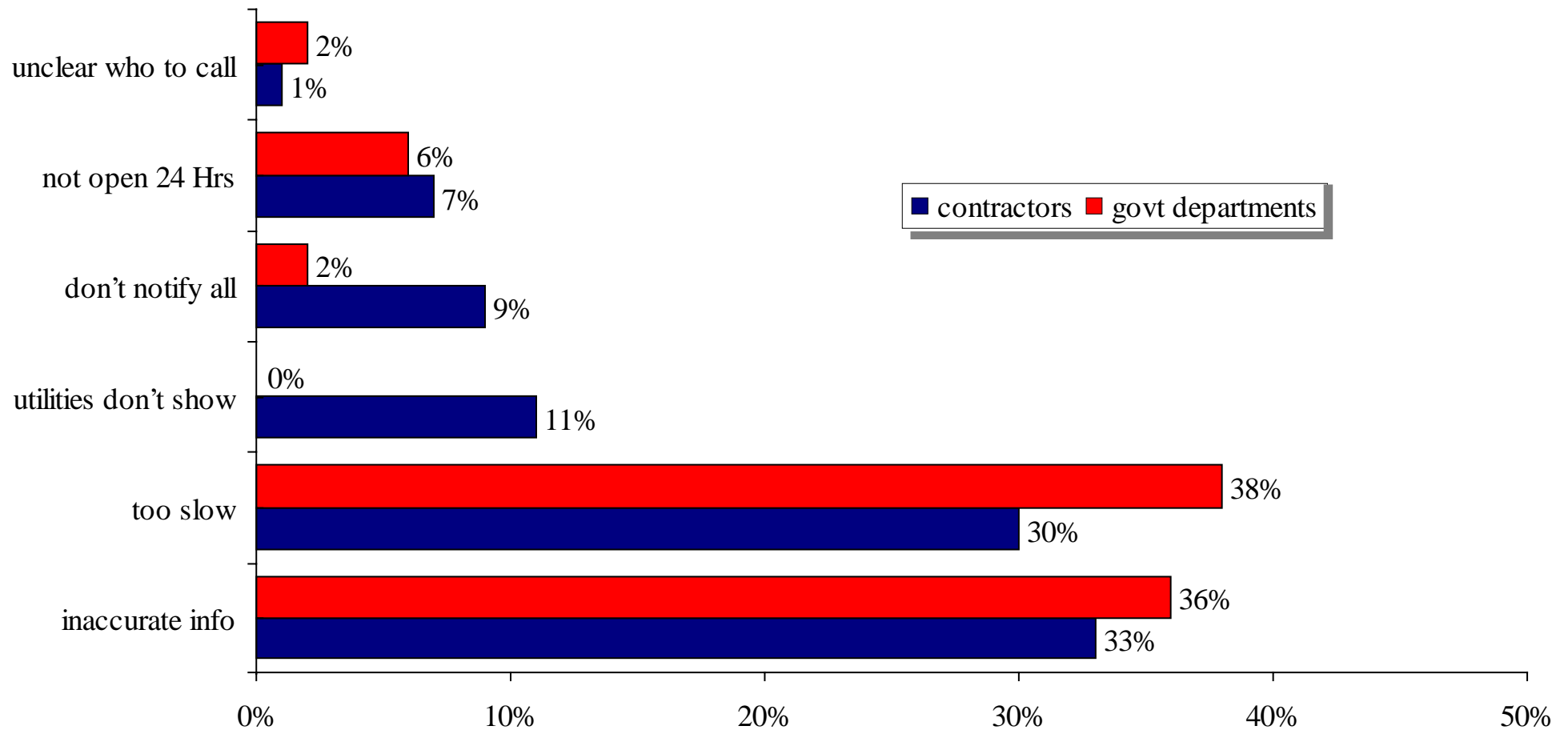


Breakdowns/Criticisms Of The Damage Prevention System

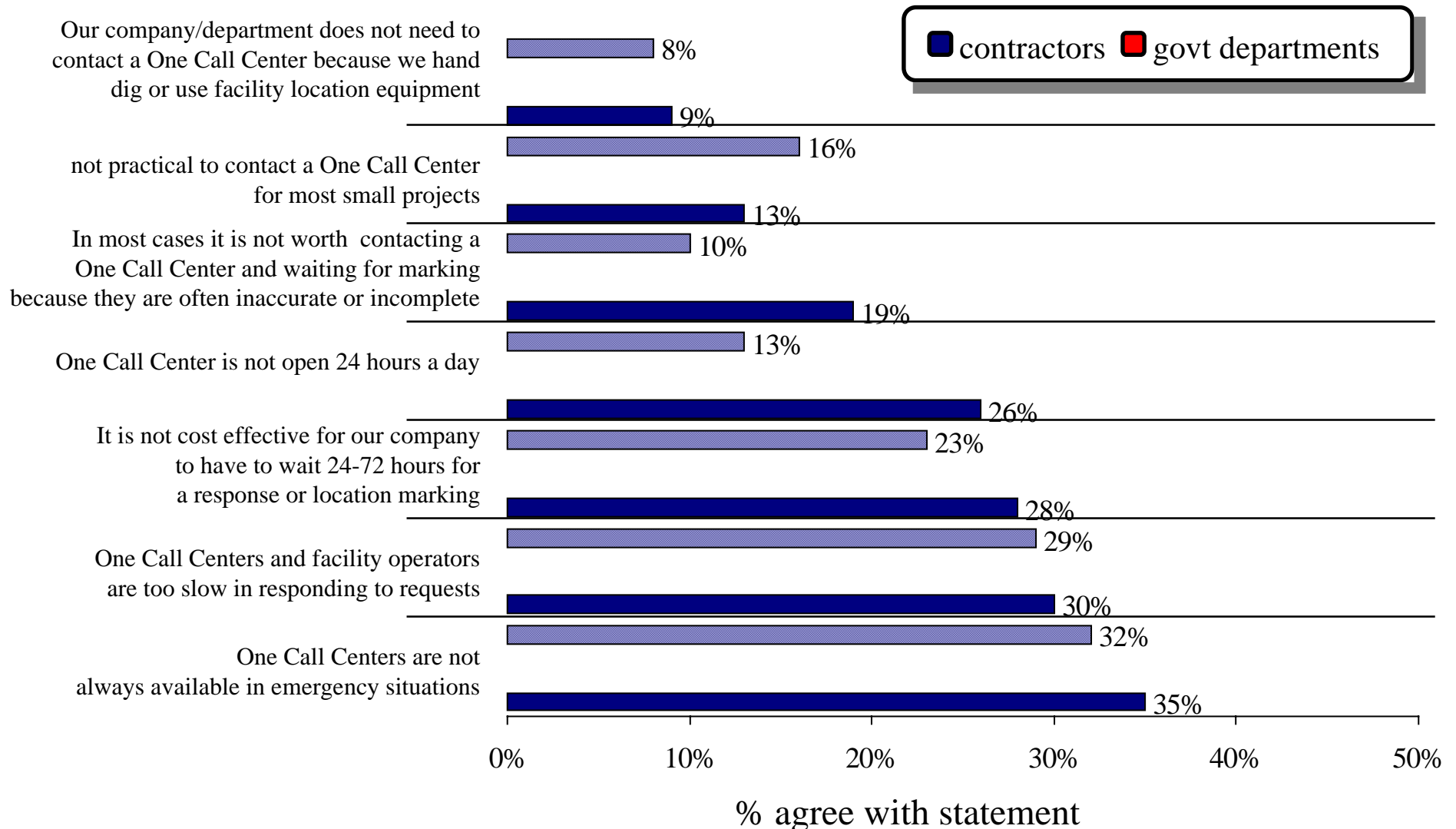
- Among those who have had problems with One Call, speed and accuracy are the most commonly cited reasons the system is not effective.
- When prompted, the top criticisms of One Call revolve around availability and speed.
- Contractors and government workers are by far the most likely to cite inaccurate facility markings as a very important factor in their most recent accident. Still, about one-third say the facility operator provided accurate markings, but their organization failed to avoid damage anyway.
- Facility operators are most likely to point the finger at the excavators as the cause of accidents.

Among Those Who Have Had Problems With One Call Centers, They Site Lack Of Speed And Accuracy As The Top Problems

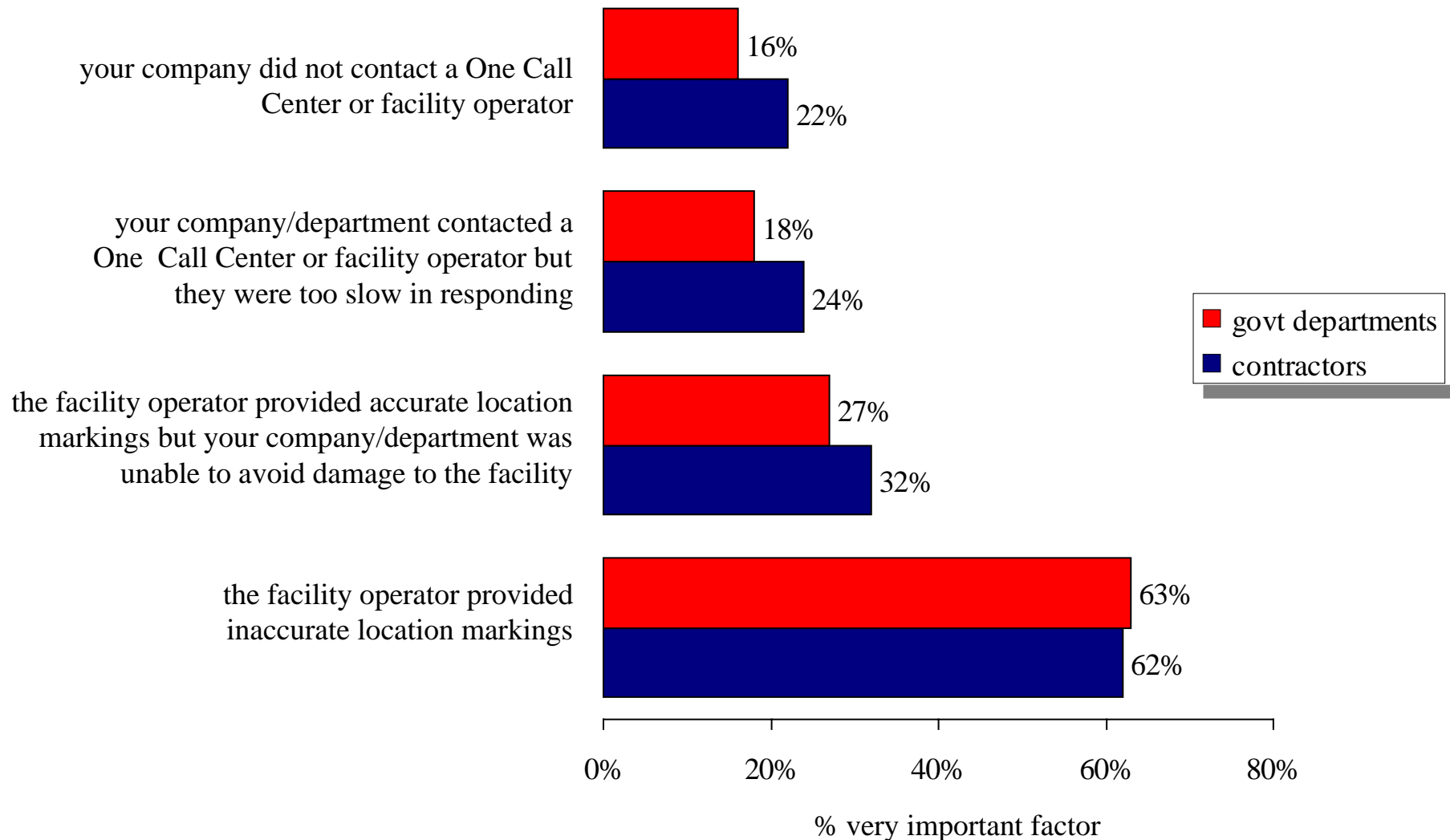
What is the main reason One Call Centers are not effective?
(among those who said One Call Centers are somewhat or not effective)



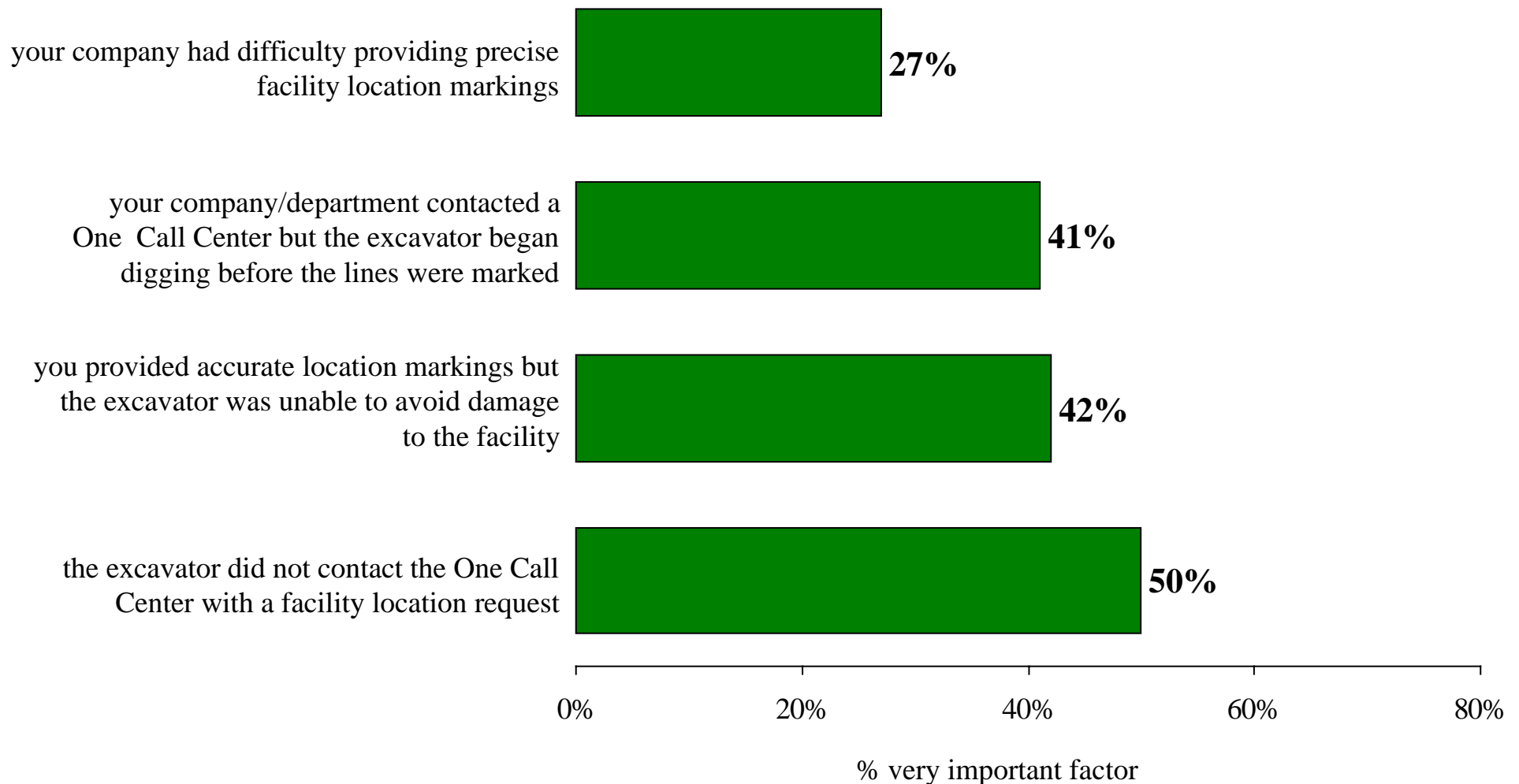
When Prompted, The Top One Call Criticisms Revolve Around Availability And Speed



Government Departments And Contractors Are Most Likely To Cite Inaccurate Facility Markings As A Very Important Factor In Their Most Recent Accident



However, Facility Operators Are Most Likely To Cite The Excavator's Failure To Contact A One Call Center

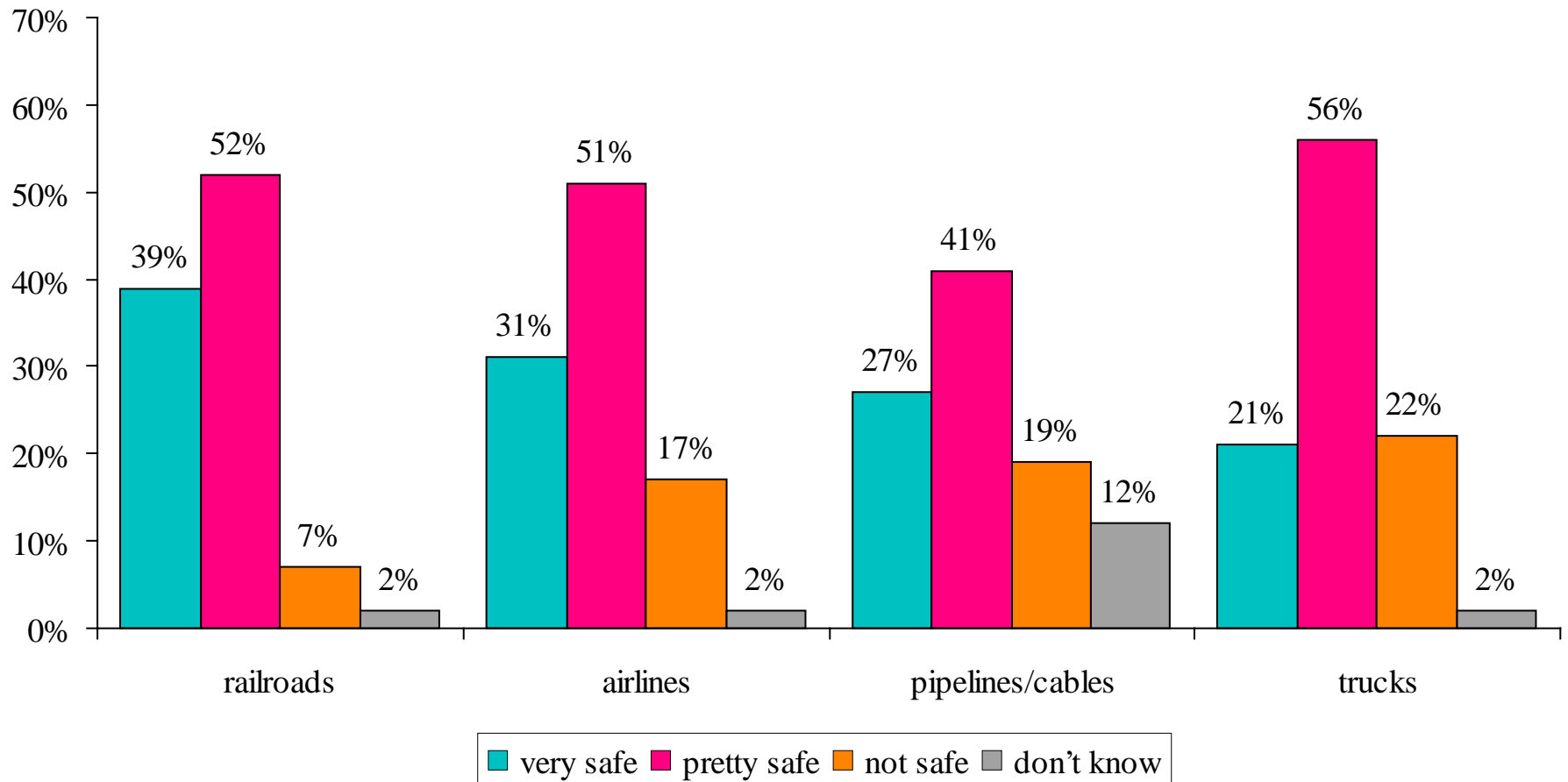


Public

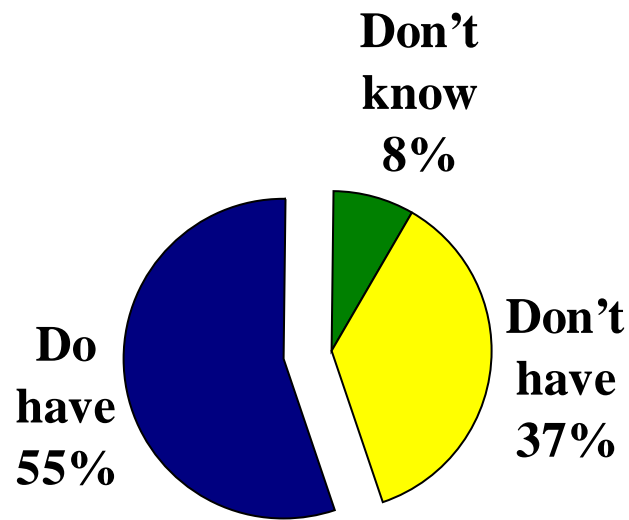
- While the public views underground facilities as a safer form of transportation than trucking, they give railroads and airlines higher marks for safety.
- A majority of property owners report they have underground pipelines or cables on or near their property.
- 43% have dug underground, while 15% have encountered an underground facility. (Recall that 7% report damaging an underground facility.)
- A majority of property owners are aware of One Call, but only one-third of those who have excavated report contacting a One Call center.
- While potential personal injury is the top reason to use One Call, damaging infrastructure and hurting the environment are effective messages as well.

The Public Believes Railroads And Airlines Are Significantly Safer Than Pipelines/Cables And Trucks

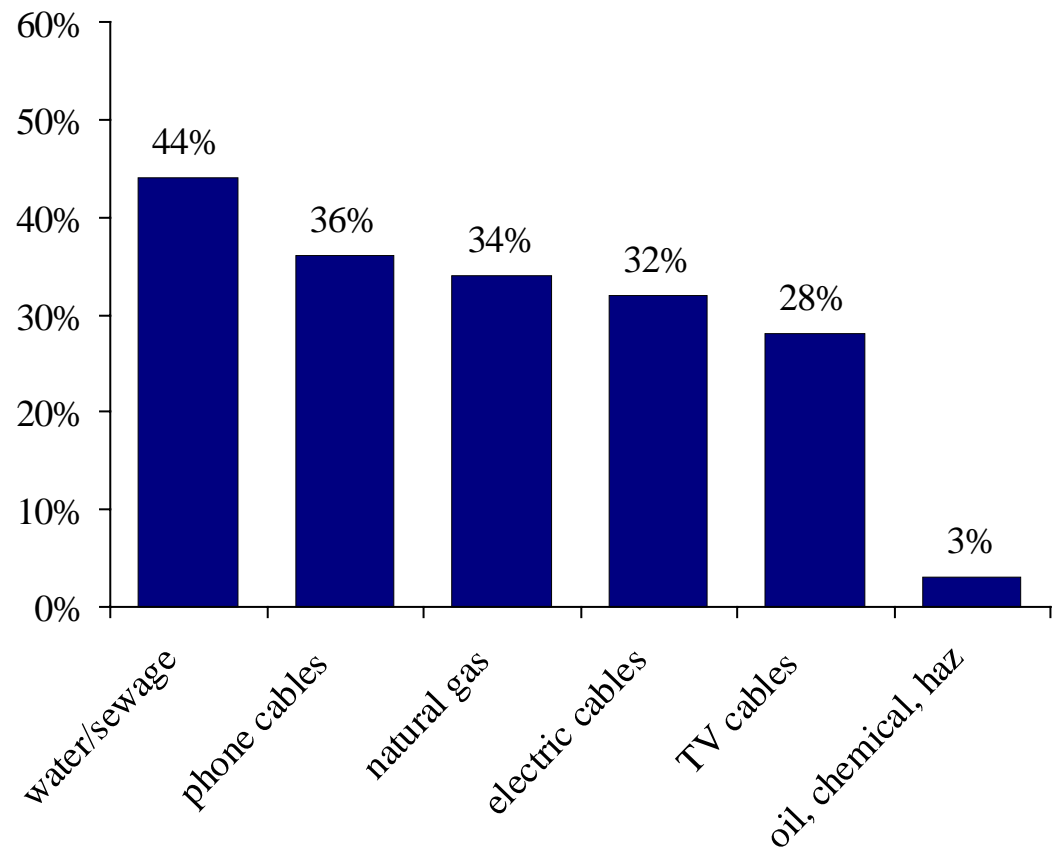
How safe is each as a way to transport industrial goods?



A Majority Of Homeowners Report They Have Underground Pipelines Or Cables Near Their Property



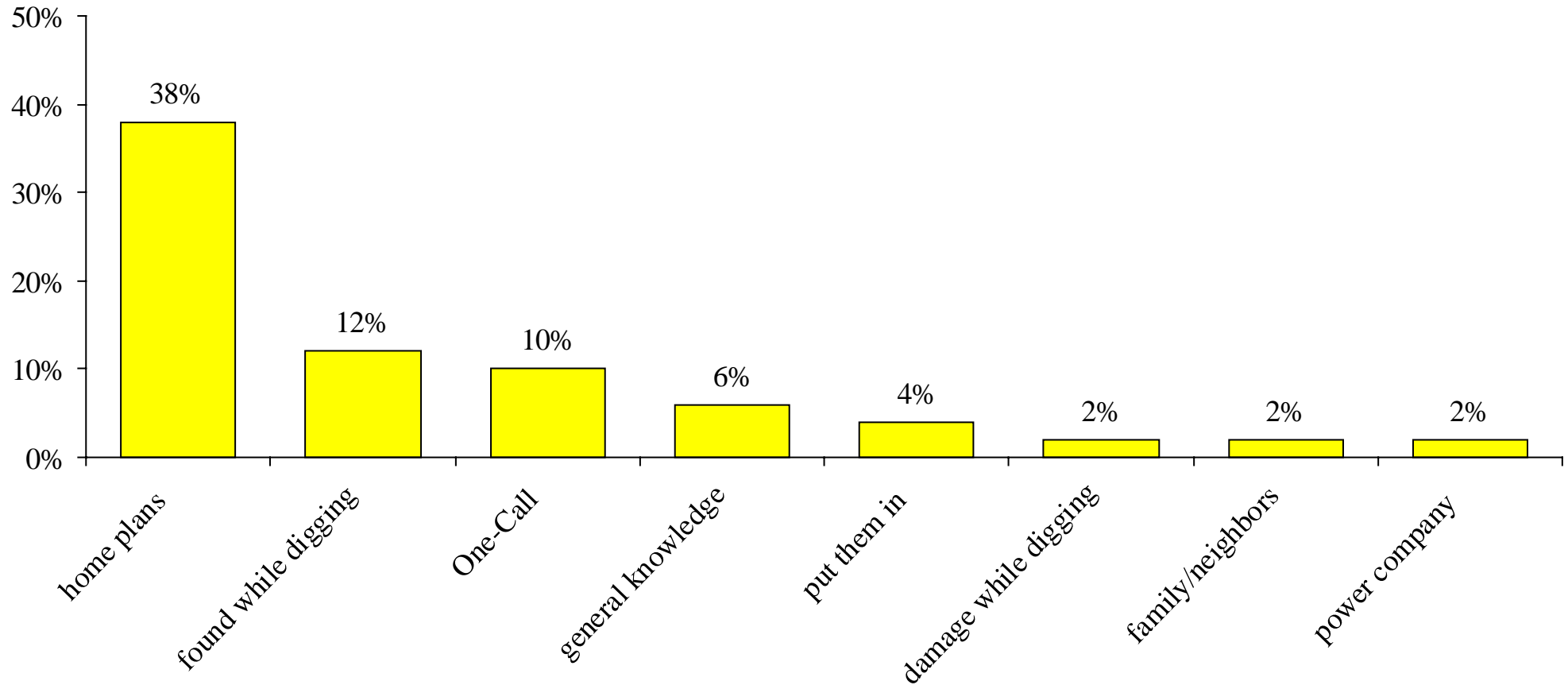
What Types Of Pipes Do You Have?



A Plurality Became Aware Of The Pipes Through Their Property Homeplans

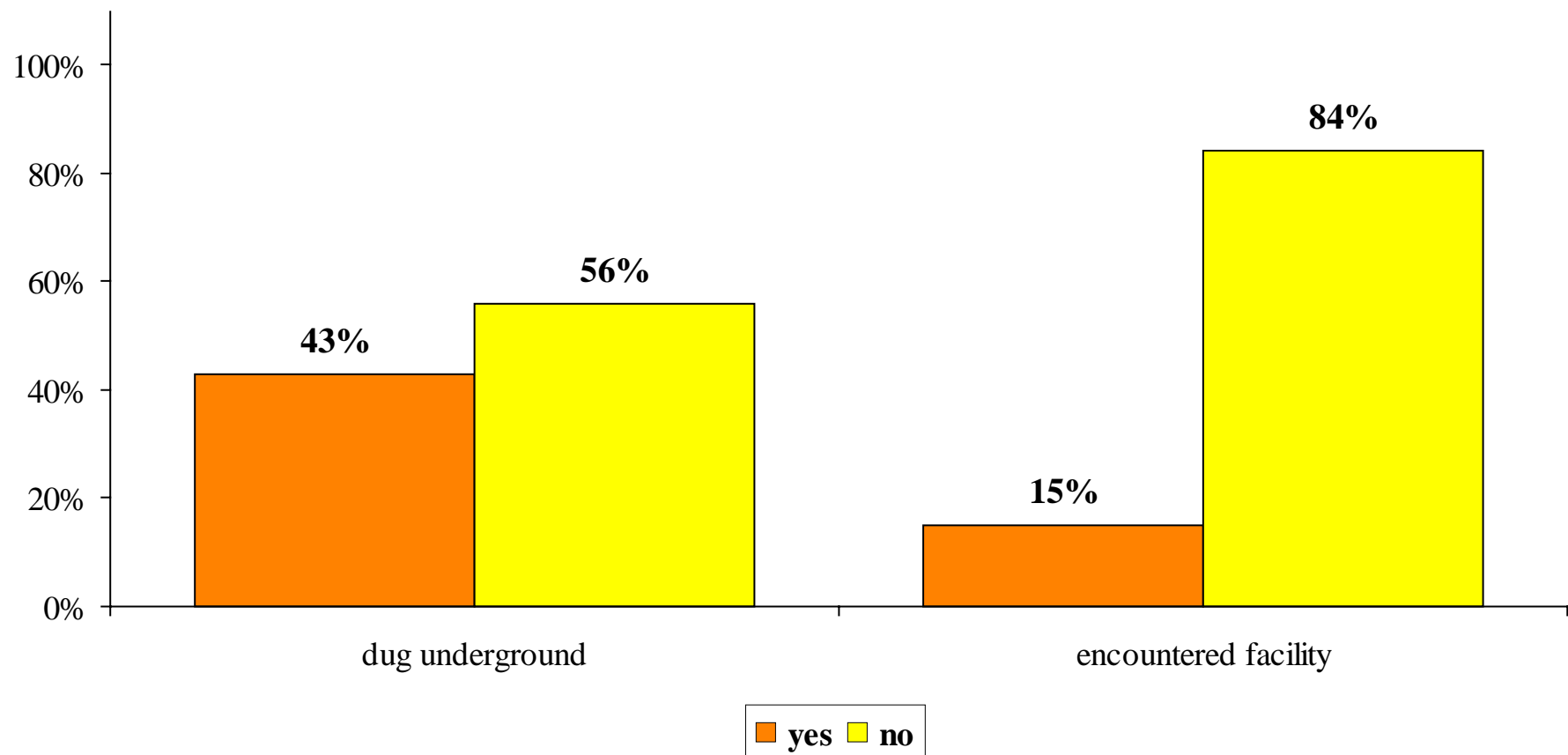
-- One In Ten Became Aware Through One Call, Although Slightly More Found Them While Digging --

How did you become aware of underground facilities?



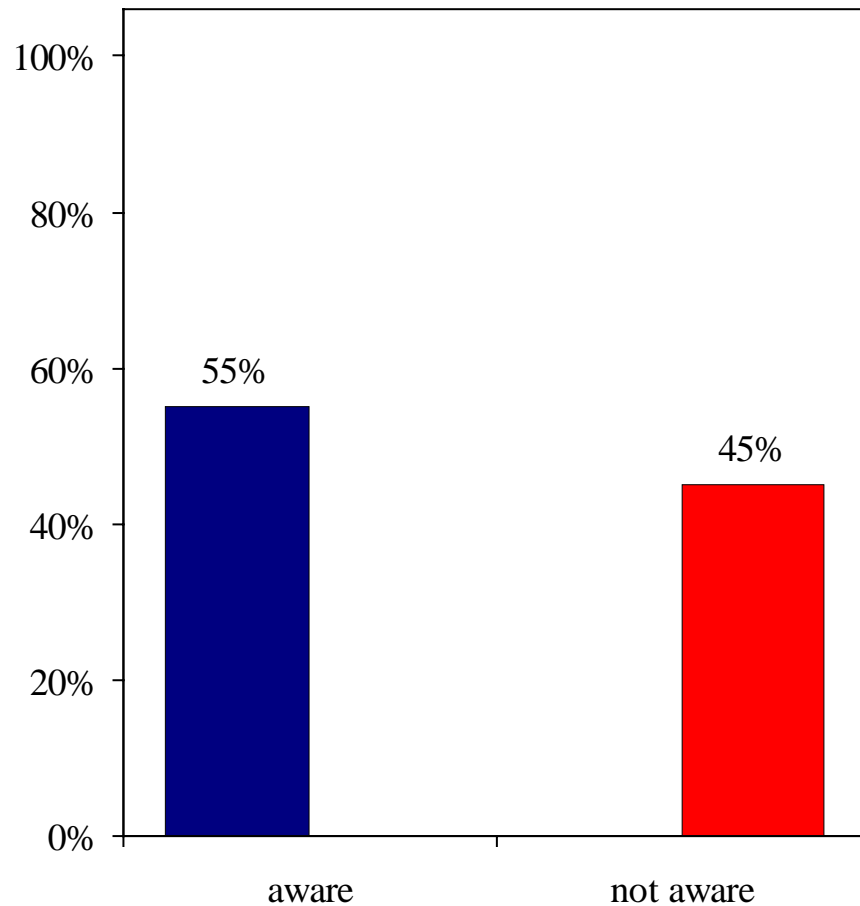
Open-ended response

Forty-Three Percent (43%) Have Dug Underground, And Few Have Encountered An Underground Facility

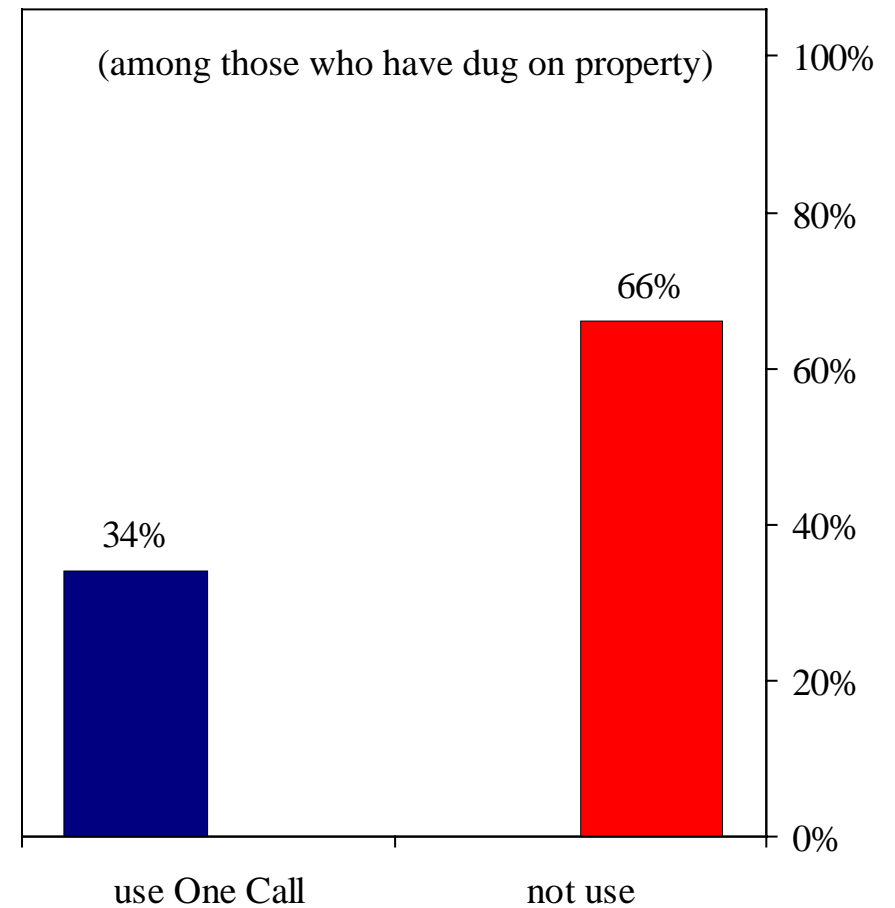


A Majority Of Property Owners Are Aware Of One Call, Although One-Third Of Those Who Have Excavated Report Using It

Aware Of One Call?

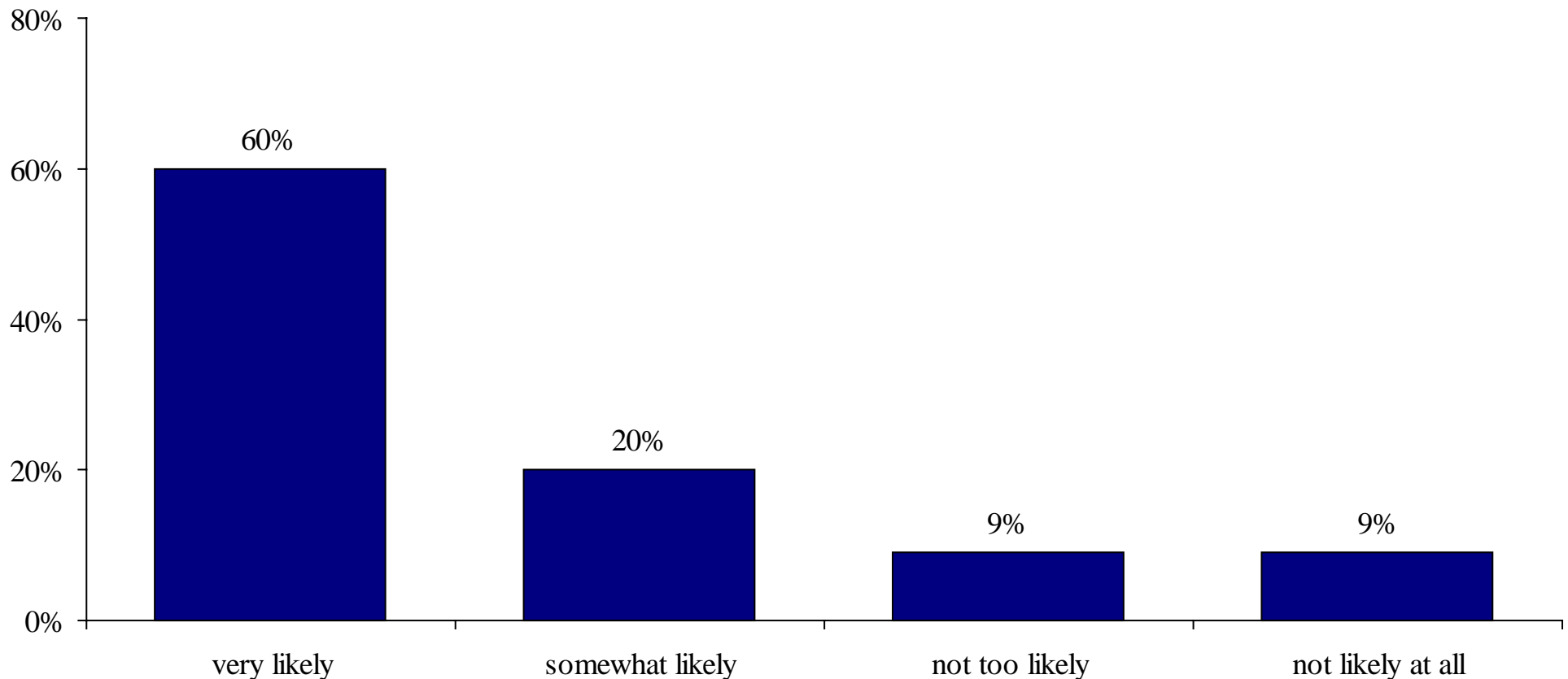


Have You Used One Call?

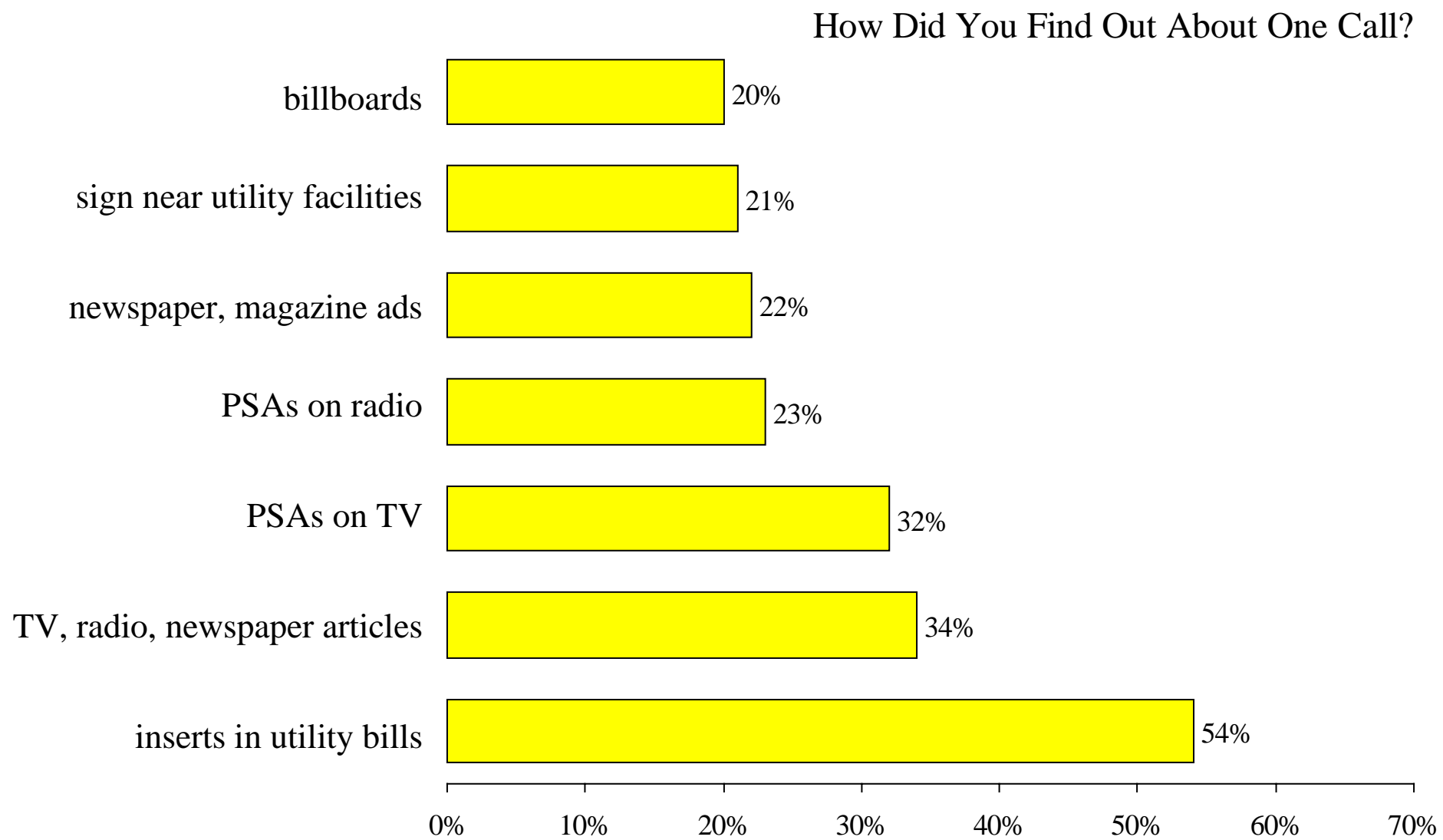


After Hearing A Description Of One Call, Three In Five Say They Would Be Very Likely To Contact One Call Before Digging On Their Property

Currently, most states operate a toll-free telephone number that individuals and companies can use to contact a "Call Before You Dig" center, also known as a One Call Center. Individuals and companies are supposed to call these centers two days before they begin digging or excavating to find out whether there are any pipelines or cables in their work area that they need to avoid. How likely would you be to contact a one call center before you begin digging or excavating on your own property

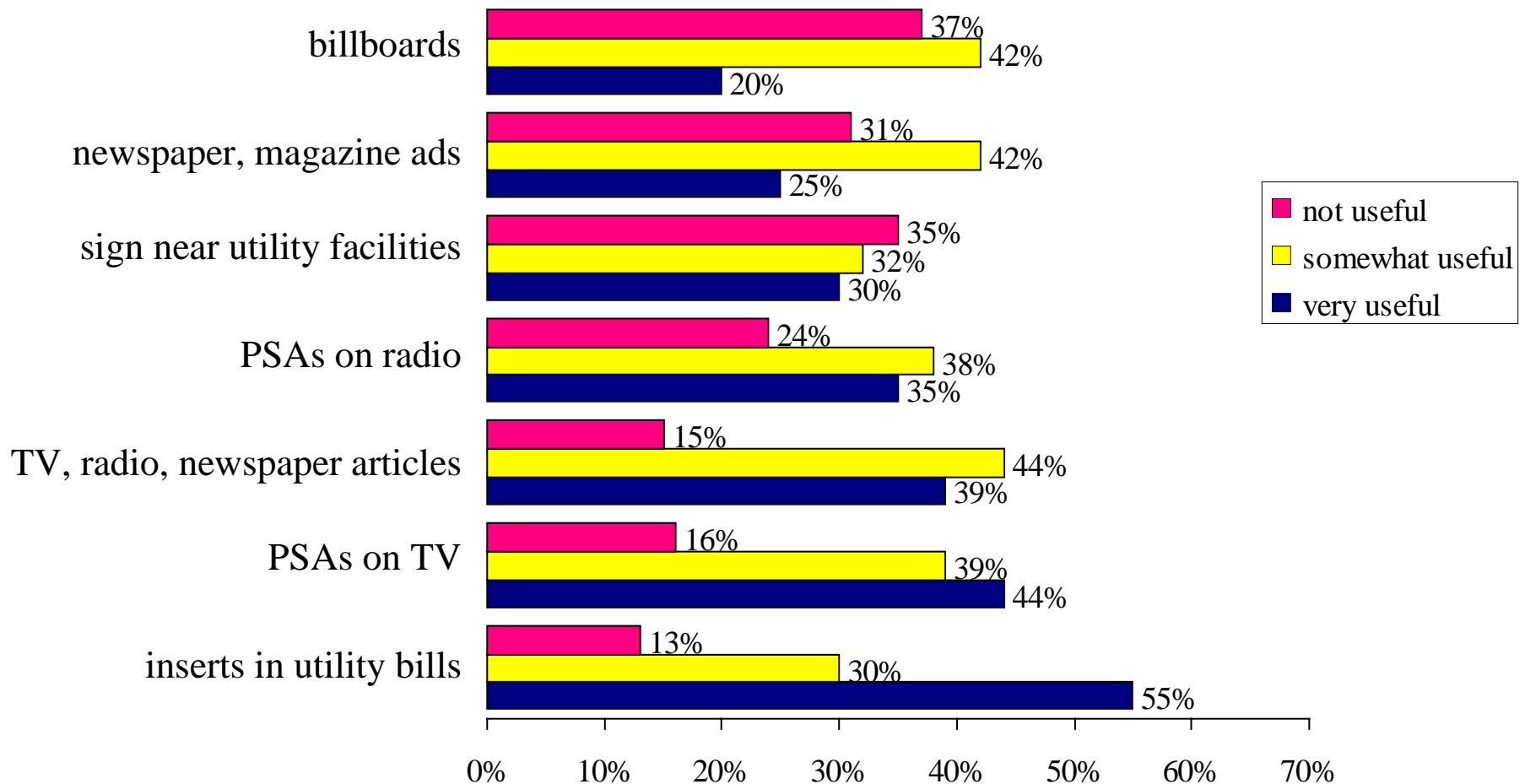


People Are Most Likely To Have Heard About One Call Through Utility Bill Inserts

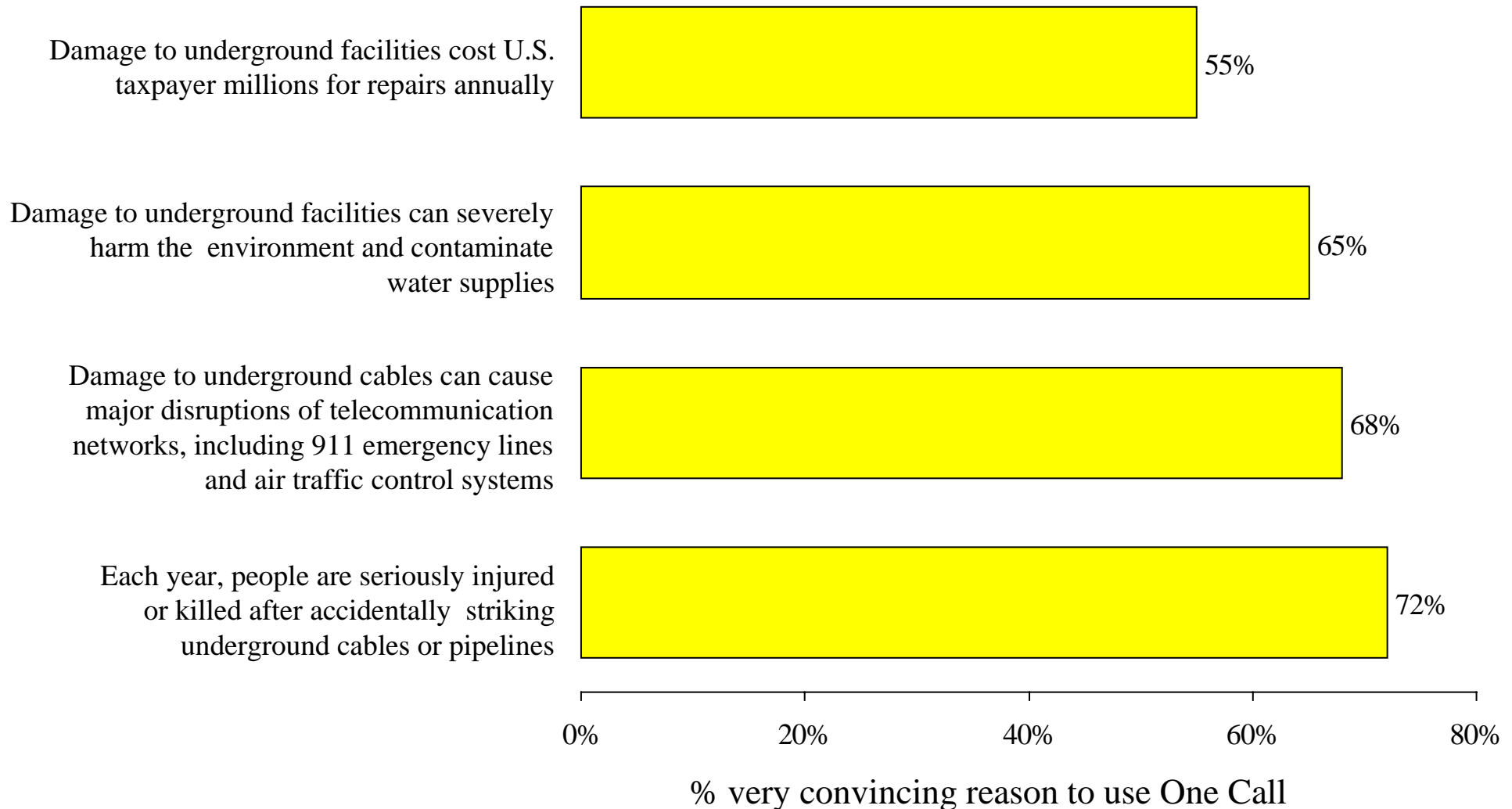


People Are Also Most Likely To Cite Utility Bill Inserts As A Very Useful Source Of Information

How Useful As A Source Of Information?



While Potential Personal Injury Is The Top Reason To Use One Call, Damaging Infrastructure And Hurting The Environment Are Effective Messages As Well



Key Findings

- **All four respondent groups (contractors, operators, government, and general public) report:**
 - High *unaided* awareness of One Call
 - High degree of confidence in One Call
- **General public respondents:**
 - Are generally aware of underground facilities
 - Are not particularly concerned about pipeline damage
 - Believe that pipeline transportation is riskier than railroad or aviation
 - Respond more strongly to safety messages than to economic arguments

Key Findings

- **Specialized groups (excavators, operators, government):**
 - Are highly concerned about pipeline damage
 - Report high usage of One Call
 - Report high incidence of accidental damage
 - Frequently use supplementary damage prevention methods
 - Cite accuracy and timeliness as most critical to One Call efficacy
- **Notable variances among the specialized groups include:**
 - Government respondents are the most likely to use One Call every time they excavate
 - Commercial respondents (excavators and operators) are more likely than government respondents to supplement One Call with other damage prevention activity

Key Implications

- **Survey data strongly indicate that:**
 - One Call awareness efforts have been extremely successful, among specialized audiences and the general public alike
 - High reported incidence of accidental damage despite usage of One Call reflects either a problem of actual system efficacy or of user expectations--or possibly a combination
- **Moreover, the data suggest that:**
 - Government excavators may be inclined to rely on One Call to the exclusion of supplementary damage prevention measures
 - Excavators of all types consider high-content technical materials (e.g., training videos, work permits, etc.) more effective than more generic media (billboards, bumper stickers, etc.) for disseminating information about One Call

Key Implications

- **Public education about pipeline damage prevention should therefore:**
 - Focus on specialized groups, i.e., those likely to be regularly engaged in excavation activity
 - Stress *shared* responsibility for damage prevention
 - Specifically define One Call system capabilities, i.e., what users can and cannot expect
 -
 - Emphasize the importance of supplemental damage prevention measures
 - Target government excavators to encourage efforts beyond One Call notification
 - Provide useful, comprehensive technical information

Key Implications

- **At the general public level, education initiatives should also:**
 - Maintain existing levels of awareness of One Call
 - Clarify what One Call offers
 - Encourage consumers to request that contractors use supplemental damage prevention measures
 - Seek to improve public perceptions of pipeline safety performance

Going Forward-Recommendations

Going Forward-Recommendations

➤ Two-Track Approach

Concurrent, integrated efforts to:

Create "second-generation" communications
and

Systematically address One Call efficacy

Second-generation communications:

- build on existing levels of awareness
- target high-probability groups
- provide additional information
- help define user expectations

Second-generation communications:

- emphasize shared responsibility
- incorporate mechanisms for feedback
- create opportunities for dialogue
- accommodate--and support--system improvements

System improvements:

- address underlying efficacy issues
- strive for uniformity/consistency
- create a common baseline

System improvements:

- require additional research
- require a concerted approach
- require a broad vision
- require practical application

Such a two-track approach:

- is dynamic, not linear
- integrates performance and communications issues
- addresses immediate information needs
- provides focus for system improvement
- permits optimal flexibility

Going Forward-Recommendations

- Develop a working prototype
- Incorporate two-track approach
- Establish communications and performance goals
- Aim for tangible results and replicability

A working prototype:

- Use survey findings to define parameters
- Balance immediate needs with longer term goals
- Provide for adequate oversight
- Design for evolution of system

Prototype Alternatives

➤ Target audience model

Analyze survey data to select one of the specialized respondent groups based on:

- frequency of excavation
- incidence of non-compliance
- levels of reported accidental damage

Target audience model

- Focuses nationwide on single excavator sector
- Assumes cross-target applicability
- Limited opportunity for system improvement

Prototype Recommendations

➤ Regional model

Analyze survey data to identify a discrete region with the following traits:

- frequent excavation activity
- mix of gov't and commercial excavation
- significant levels of non-compliance
- significant levels of reported damage
- significant levels of reported system shortfalls

Regional model

Other factors to consider include:

- Presence/concentration of underground facilities
- Status of state regulation
- Quality of federal/state interaction

Regional model

Addresses all facets of damage prevention:

- Communications
 - Reaches specialized audiences
 - Engages general public

- System Improvement
 - Allows for systematic study
 - Encourages development

Regional model

- Offers best application of two-track approach
- Optimizes opportunities for replication
- Likely to yield shorter-term results
- Relatively simple to design and manage

Appendix

Questionnaires

Questionnaire:

Contractors

OPS/DAMQAT SURVEY -- CONTRACTORS

Final -- MARGINALS

June 1997

Hello. May I speak with **[ASK FOR NAME ON LIST -- IF RESPONDENT IS UNAVAILABLE, RESCHEDULE FOR CONVENIENT TIME]**

My name is _____. I'm calling from Edge Research on behalf of the U.S. Department of Transportation. We're conducting a public opinion survey and I would like to ask you some questions. I want to stress that your individual responses are confidential and that the results will be reported in aggregate form for research purposes only.

1. First, does your company perform excavation work?

Yes 100
No **TERMINATE**
don't know **TERMINATE**

2. Within the past year, have you personally performed, supervised, or observed excavations?

Yes 100
No/don't know **ASK TO SPEAK WITH SOMEONE WHO HAS --**
IF NONE AVAILABLE, RESCHEDULE

3. On average, would you say that you personally are involved in on-site excavations just about every day, a few times a week, a few times a month, or less often than a few times a month?

just about every day 47
few times a week 22
few times a month 20
less often 9
don't know 1

4. On average, would you say that your company as a whole performs excavations just about every day, a few times a week, a few times a month, or less often than a few times a month?

just about every day 75
few times a week 13
few times a month 9
less often 3
don't know 1

5. In general, how concerned are you about damage to underground facilities. Are you very concerned, somewhat concerned, not too concerned, or not concerned at all? **[IF NECESSARY, READ: Underground facilities include gas pipelines, oil pipelines, telecommunications lines, water lines, sewer lines, gas distribution lines, and cable television lines.]**

very concerned	90
somewhat concerned	8
not too concerned	1
not concerned at all	1
don't know	0

6. How concerned are that your company might inadvertently cause damage to underground facilities? Are you very concerned, somewhat concerned, not too concerned, or not concerned at all?

very concerned	87
somewhat concerned	9
not too concerned	3
not concerned at all	1
don't know	0

7. Generally speaking, does your company take any measures to prevent damage to underground facilities?

yes, take measures	99
no, don't take measures [SKIP TO Q17]	1
don't know [SKIP TO Q17]	0

(IF "YES" ON Q7:) What measures would you say you and your company take to prevent damage to underground facilities on a typical excavation? **[ACCEPT MULTIPLE RESPONSES -- CHECK ALL THAT APPLY]**

[DO NOT READ LIST]

8. contact "Call Before You Dig"/One-Call Centers	[85]
9. use underground facility location equipment or services	[27]
10. pre-construction meetings/reviews with facility owners	[29]
11. videotape excavation area	[9]
12. hand digging	[47]
13. pre-mark excavation areas with paint	[32]
14. make sure the facility operator/representative is present during excavation	[18]
15. account for all feeds to houses or buildings	[18]
16. Other [RECORD:] _____ ..	[11]

Now I'm going to read you a list of possible damage prevention actions that can be done before any excavation project. After each, please tell me how effective you think that would be in reducing damage to underground facilities. Would it be very effective, somewhat effective, not too effective, or not effective at all in reducing damage to underground facilities.

		very eff	swhat eff	not too eff	not at all eff	don't know
[ROTATE]						
__17. Holding a pre-construction meeting with facility owners to review the excavation area	58	31	7	3	1	
__18. Notifying "Call Before You Dig" or One Call service centers	83	15	2	0	1	
__19. Hand digging in areas where there might be underground facilities	72	21	4	1	1	
__20. Pre-marking excavation areas with paint	66	28	2	2	1	
__21. Accounting for all feeds to houses or buildings before excavation	67	24	5	1	2	
__22. Making sure a representative from the underground facility operator is present during excavation	37	33	13	14	3	
__23. Exposing all submerged facilities that you will be crossing	69	21	6	3	1	
__24. Using underground facility locating equipment or hiring an underground facility locating company	51	32	6	8	3	

Now I'm going to read you the same list again. This time I'd like you to tell me how practical it is for your company to perform each of these actions in conjunction with every excavation project you conduct. After each, please tell me if it is very practical for your company to perform that action before every excavation project, somewhat practical, not too practical, or not at all practical.

		very pract	swhat pract	not too pract	not at all pract	don't know
[ROTATE]						
__25. Holding a pre-construction meeting with facility owners to review the excavation area	55	30	9	6	1	
__26. Notifying "Call Before You Dig" or One Call service centers	84	14	1	0	0	
__27. Hand digging in areas where there might be underground facilities	64	22	9	4	1	
__28. Pre-marking excavation areas with paint	71	19	6	4	1	
__29. Accounting for all feeds to houses or buildings before excavation	56	29	7	5	2	

__30. Making sure a representative from the underground facility operator is present during excavation 25 32 20 22 1

__31. Exposing all submerged facilities that you will be crossing 56 25 11 7 1

__32. Using underground facility locating equipment or hiring an underground facility locating company 48 29 11 11 2

33. How familiar are you with "Call Before Your Dig Centers," also known as One Call Centers. Would you say you are very familiar with them, somewhat familiar, not too familiar, or not familiar at all with One Call Centers.

very familiar 86
 somewhat familiar 10
 not too familiar 2
 not familiar at all [SKIP TO Q43] 2
 don't know [SKIP TO Q43] 0

34. How often would you say you contact a One Call Center before you begin to excavate. Would you say that you contact a One Call Center before every dig, most of the time, some of the time, rarely, or never?

every dig [ASK Q35.a] 72
 most of the time [ASK Q35.a] 17
 some of the time [ASK Q35.a] 6
 rarely [ASK Q35.b] 3
 never [ASK Q35.b] 1
 don't know 0

35.a. What would you say is the main reason you contact a One Call Center before you begin to excavate? [OPEN-ENDED -- RECORD RESPONSE -- CODE 99 FOR DON'T KNOW]

to know where to dig 27
 prevent damage 23
 it's the law 15
 safety/protection 15
 avoid expense/liability 11

35.b. What would you say is the main reason you [rarely/never] contact a One Call Center before you begin to excavate? [OPEN-ENDED -- RECORD RESPONSE -- CODE 99 FOR DON'T KNOW]

36. How effective do you think One Call Centers are in helping your company avoid underground facility damage. Are they very effective, somewhat effective, not too effective, or not effective at all?

very effective [SKIP TO Q43] 71
 somewhat effective 20
 not too effective 4
 not effective at all 1
 don't know [SKIP TO Q43] 1

What would you say is the main reason the One Call Centers are [only somewhat effective / not too effective / not effective at all]? **[ACCEPT MULTIPLE RESPONSES -- CODE RESPONSE ORDER: 1,2,3...]** Are there any other reasons you think the One Call Centers are [only somewhat effective / not too effective / not effective at all]?

[DO NOT READ LIST]

37. too slow in responding to requests/can't always afford to wait [30]
38. don't need to use them/we know where the lines are [0]
39. not open 24 hours/not available for emergency locates [7]
40. don't make number available/not clear about which number to call [1]
- 41.inaccurate markings/information [33]
42. Utilities don't always show up [11]
- 42b. They don't notify all the parties [9]

[RESUME ASKING ALL RESPONDENTS]

43. Has your company ever been involved in an excavation that accidentally resulted in damage to any underground facilities?

yes 76

no **[SKIP TO Q50]** 24

don't know **[SKIP TO Q50]** 0

44. Generally speaking, when damage to underground facilities has occurred, has your company reported the damage every time it has happened, most of the time, some of the time, rarely, or never?

every time 95

most of the time 3

some of the time 1

rarely 0

never 0

don't know 0

45. Has your company ever been involved in an excavation that accidentally resulted in damage to an underground facility even after you had contacted and received information from a One Call Center?

yes 66

no 32

don't know 1

Thinking about the most recent instance when your company inadvertently damaged an underground facility, how important would you say each of the following factors were in that accident -- very important, somewhat important, not too important, not important at all.

	very imp	swhat imp	not too imp	not at imp	don't know
[ROTATE]					
__46. Your company contacted a One Call Center or facility operator, but they were too slow in responding	24	17	9	45	5
__47. The facility operator provided inaccurate location markings	62	14	4	15	5
__48. Your company did not contact a One Call Center or facility operator	22	7	5	59	7
__49. The facility operator provided accurate location markings, but your company was unable to avoid damaging the facility	32	19	6	36	7

[RESUME ASKING ALL RESPONDENTS]

I'm going to read you some reasons people have given for not contacting One Call Centers before excavating. For each, please tell me whether you agree strongly, agree somewhat, disagree somewhat, or disagree strongly with that statement.

	strongly agree	smwht agree	smwht disag	strongly disag	don't know
[ROTATE]					
__50. The One Call Centers and facility operators are too slow in responding to our requests.	10	20	21	45	4
__51. Our company usually does not need to contact a One Call Center because we hand dig or use facility location equipment	4	5	18	71	3
__52. It is not practical to contact a One Call Center for most small projects	6	7	17	69	1
__53. The One Call Center is not always available in emergency situations.	13	22	14	45	6
__54. In most cases it is not worth contacting a One Call Center and waiting for facility location markings because they are often inaccurate or incomplete	7	12	15	64	2
__55. It is not cost-effective for our company to have to wait 24 to 72 hours for a response or location marking.	13	15	15	55	2
__56. The One Call Center is not open 24 hours a day.	11	15	17	38	19

Now I'm going to read you a list of places where you might have seen, read or heard about Call Before Your Dig One Call Centers. First, please tell me if you have seen or have not seen that source of information. Second, if you have seen this source of information about One Call Centers, please tell me how effective you think it was in getting you to use them. Was it very effective, somewhat effective, not too effective, or not effective at all. Again, if you haven't seen a particular item please say so and we will go on.

[ROTATE]	very eff	swhat eff	not too eff	not at all eff	don't know	SEEN	NOT SEEN
__57. Brochures	41	44	8	6	1	90	10
__58. Public Service Announcements	37	40	13	9	1	87	13
__59. Bumper stickers	27	29	16	25	3	75	25
__60. Decals and other labels	42	32	11	12	3	90	10
__61. Training materials	53	32	7	6	2	88	12
__62. Billboards	30	36	13	17	5	72	28
__63. Safety videos	52	33	6	8	2	84	16
__64. Work permits	50	26	8	12	3	78	22
__65. Materials produced within your own department ..	50	27	6	15	2	70	30

66. Are there any other sources of information about One Call centers that you have found particularly effective?
[OPEN-ENDED -- RECORD RESPONSE -- CODE 99 FOR DON'T KNOW]

Now I'd like to ask you a few more questions for classification purposes only.

67. Not including contractors, approximately how many employees work for your company? [CODE RESPONSE.
DK/REFUSED=99999] _____

68. Are the employees at your company members of a labor union?

yes 23
no 76
DK/Refused 1

69. Does your company belong to a contractor trade organization?

yes 63
no 36
DK/Refused 1

70. How would you describe the locations where you perform most of your excavation work -- are your excavation sites typically in urban areas, suburban areas, small towns, or rural locations?

MORE THAN ONE RESPONSE ACCEPTED

urban	48
suburban	43
small town	39
rural	44
(Don't Know/Refused)	1

Please tell me if contract work for each of the following types of customers is a major part of your business, a minor part of your business, or not part of your business at all? **[READ LIST]**

	major	minor	none	DK/REF
71. residential construction or excavation	44	36	19	1
72. small businesses	21	62	16	1
73. petroleum industry	4	29	67	1
74. chemical industry	3	27	69	1
75. telecommunications	9	33	57	1
76. cable television	6	25	69	1
77. natural gas utilities	8	32	59	1
78. electric utilities	11	42	46	1
79. federal, state, or local government	47	35	16	1

Questionnaire:

Government Employees

OPS/DAMQAT SURVEY -- STATE/LOCAL GOVERNMENT DEPARTMENTS

Final -- Marginals

June 1997

Hello. May I speak with **[ASK FOR NAME ON LIST -- IF RESPONDENT IS UNAVAILABLE, RESCHEDULE FOR CONVENIENT TIME]**

My name is _____. I'm calling from Edge Research on behalf of the U.S. Department of Transportation. We're conducting a public opinion survey and I would like to ask you some questions. I want to stress that your individual responses are confidential and that the results will be reported in aggregate form for research purposes only.

1. First, does your department perform excavation work?

Yes 100
No **TERMINATE**
don't know **TERMINATE**

2. Within the past year, have you personally performed, supervised, or observed excavations?

Yes 100
No/don't know **ASK TO SPEAK WITH SOMEONE WHO HAS --**
IF NONE AVAILABLE, RESCHEDULE

3. On average, would you say that you personally are involved in on-site excavations just about every day, a few times a week, a few times a month, or less often than a few times a month?

just about every day 14
few times a week 24
few times a month 42
less often 19
don't know 0

4. On average, would you say that your department as a whole performs excavations just about every day, a few times a week, a few times a month, or less often than a few times a month?

just about every day 36
few times a week 26
few times a month 27
less often 10
don't know 1

5. In general, how concerned are you about damage to underground facilities. Are you very concerned, somewhat concerned, not too concerned, or not concerned at all? **[IF NECESSARY, READ: Underground facilities include gas pipelines, oil pipelines, telecommunications lines, water lines, sewer lines, gas distribution lines, and cable television lines.]**

very concerned	92
somewhat concerned	4
not too concerned	2
not concerned at all	2
don't know	0

6. How concerned are that your department might inadvertently cause damage to underground facilities? Are you very concerned, somewhat concerned, not too concerned, or not concerned at all?

very concerned	87
somewhat concerned	10
not too concerned	2
not concerned at all	1
don't know	0

7. Generally speaking, does your department take any measures to prevent damage to underground facilities?

yes, take measures	99
no, don't take measures [SKIP TO Q17]	0
don't know [SKIP TO Q17]	0

(IF "YES" ON Q7:) What measures would you say you and your department take to prevent damage to underground facilities on a typical excavation? **[ACCEPT MULTIPLE RESPONSES -- CHECK ALL THAT APPLY]**

[DO NOT READ LIST]

8. contact "Call Before You Dig"/One-Call Centers	[95]
9. use underground facility location equipment or services	[13]
10. pre-construction meetings/reviews with facility owners	[13]
11. videotape excavation area	[1]
12. hand digging	[26]
13. pre-mark excavation areas with paint	[22]
14. make sure the facility operator/representative is present during excavation	[9]
15. account for all feeds to houses or buildings	[10]
16. Other [RECORD:] _____ ..	[4]

Now I'm going to read you a list of possible damage prevention actions that can be done before any excavation project. After each, please tell me how effective you think that would be in reducing damage to underground facilities. Would it be very effective, somewhat effective, not too effective, or not effective at all in reducing damage to underground facilities.

	very eff	swhat eff	not too eff	not at all eff	don't know
[ROTATE]					
__17. Holding a pre-construction meeting with facility owners to review the excavation area	66	24	7	2	2
__18. Notifying "Call Before You Dig" or One Call service centers	90	9	1	0	0
__19. Hand digging in areas where there might be underground facilities	70	22	4	4	1
__20. Pre-marking excavation areas with paint	74	21	3	2	0
__21. Accounting for all feeds to houses or buildings before excavation	70	24	2	1	3
__22. Making sure a representative from the underground facility operator is present during excavation	54	26	10	6	3
__23. Exposing all submerged facilities that you will be crossing	74	19	2	4	1
__24. Using underground facility locating equipment or hiring an underground facility locating company	67	22	3	4	4

Now I'm going to read you the same list again. This time I'd like you to tell me how practical it is for your department to perform each of these actions in conjunction with every excavation project you conduct. After each, please tell me if it is very practical for your department to perform that action before every excavation project, somewhat practical, not too practical, or not at all practical.

	very pract	swhat pract	not too pract	not at all pract	don't know
[ROTATE]					
__25. Holding a pre-construction meeting with facility owners to review the excavation area	51	28	12	8	1
__26. Notifying "Call Before You Dig" or One Call service centers	94	6	0	1	0
__27. Hand digging in areas where there might be underground facilities	57	28	8	8	0
__28. Pre-marking excavation areas with paint	75	17	4	3	0
__29. Accounting for all feeds to houses or buildings before excavation	54	31	5	8	3
__30. Making sure a representative from the underground facility operator is present during excavation	30	28	20	22	1
__31. Exposing all submerged facilities that you will be crossing	44	28	14	14	2
__32. Using underground facility locating equipment or hiring an underground facility locating company	54	24	7	12	3

33. How familiar are you with "Call Before Your Dig Centers," also known as One Call Centers. Would you say you are very familiar with them, somewhat familiar, not too familiar, or not familiar at all with One Call Centers.

very familiar	81
somewhat familiar	16
not too familiar	2
not familiar at all [SKIP TO Q43]	0
don't know [SKIP TO Q43]	0

34. How often would you say you contact a One Call Center before you begin to excavate. Would you say that you contact a One Call Center before every dig, most of the time, some of the time, rarely, or never?

every dig [ASK Q35.a]	68
most of the time [ASK Q35.a]	26
some of the time [ASK Q35.a]	5
rarely [ASK Q35.b]	1
never [ASK Q35.b]	0
don't know	0

35.a. What would you say is the main reason you contact a One Call Center before you begin to excavate? [OPEN-ENDED -- RECORD RESPONSE -- CODE 99 FOR DON'T KNOW]

to know where to dig	26
prevent damage	26
safety/protection	13
it's the law	10
avoid expense/ liability	10
other	4
DK/REF	10

35.b. What would you say is the main reason you [rarely/never] contact a One Call Center before you begin to excavate? [OPEN-ENDED -- RECORD RESPONSE -- CODE 99 FOR DON'T KNOW]

36. How effective do you think One Call Centers are in helping your department avoid underground facility damage. Are they very effective, somewhat effective, not too effective, or not effective at all?

very effective [SKIP TO Q43]	78
somewhat effective	17
not too effective	4
not effective at all	1
don't know [SKIP TO Q43]	0

What would you say is the main reason the One Call Centers are [only somewhat effective / not too effective / not effective at all]? [ACCEPT MULTIPLE RESPONSES -- CODE RESPONSE ORDER: 1,2,3...] Are there any other reasons you think the One Call Centers are [only somewhat effective / not too effective / not effective at all]? [DO NOT READ LIST]

37. too slow in responding to requests/can't always afford to wait [38]

38. don't need to use them/we know where the lines are [6]

39. not open 24 hours/not available for emergency locates [6]

40. don't make number available/not clear about which number to call [2]

41. Inaccurate info markings [36]

42. Don't notify all parties [2]

[RESUME ASKING ALL RESPONDENTS]

43. Has your department ever been involved in an excavation that accidentally resulted in damage to any underground facilities?

yes	78
no [SKIP TO Q50]	20
don't know [SKIP TO Q50]	2

44. Generally speaking, when damage to underground facilities has occurred, has your department reported the damage every time it has happened, most of the time, some of the time, rarely, or never?

every time	97
most of the time	2
some of the time	0
rarely	1
never	0
don't know	0

45. Has your department ever been involved in an excavation that accidentally resulted in damage to an underground facility even after you had contacted and received information from a One Call Center?

yes	65
no	34
don't know	1

Thinking about the most recent instance when your department inadvertently damaged an underground facility, how important would you say each of the following factors were in that accident -- very important, somewhat important, not too important, not important at all.

	very imp	swhat imp	not too imp	not at imp	don't know
[ROTATE]					
__46. Your department contacted a One Call Center or facility operator, but they were too slow in responding	18	11	5	62	4
__47. The facility operator provided inaccurate location markings	63	12	5	17	4
__48. Your department did not contact a One Call Center or facility operator	16	8	5	66	5
__49. The facility operator provided accurate location markings, but your department was unable to avoid damaging the facility	27	15	6	47	5

[RESUME ASKING ALL RESPONDENTS]

I'm going to read you some reasons people have given for not contacting One Call Centers before excavating. For each, please tell me whether you agree strongly, agree somewhat, disagree somewhat, or disagree strongly with that statement.

	strongly agree	smwht agree	smwht disag	strongly disag	don't know
[ROTATE]					
__50. The One Call Centers and facility operators are too slow in responding to our requests.	13	16	10	59	1
__51. Our department usually does not need to contact a One Call Center because we hand dig or use facility location equipment	2	6	11	80	2
__52. It is not practical to contact a One Call Center for most small projects	6	10	12	71	0
__53. The One Call Center is not always available in emergency situations.	19	13	11	54	2
__54. In most cases it is not worth contacting a One Call Center and waiting for facility location markings because they are often inaccurate or incomplete	3	7	14	75	1
__55. It is not cost-effective for our department to have to wait 24 to 72 hours for a response or location marking.	11	12	11	66	0
__56. The One Call Center is not open 24 hours a day.	7	6	8	61	19

Now I'm going to read you a list of places where you might have seen, read or heard about Call Before Your Dig One Call Centers. First, please tell me if you have seen or have not seen that source of information. Second, if you have seen this source of information about One Call Centers, please tell me how effective you think it was in getting you to use them. Was it they very effective, somewhat effective, not too effective, or not effective at all. Again, if you haven't seen a particular item please say so and we will go on.

	very eff	swht eff	not too eff	not at all eff	don't know	SEEN	NOT SEEN
[ROTATE]							
__57. Brochures	61	31	4	4	0	92	8
__58. Public Service Announcements	63	25	6	5	1	90	10
__59. Bumper stickers	36	33	15	14	2	70	30
__60. Decals and other labels	55	30	7	5	2	84	16
__61. Training materials	70	23	5	2	0	82	18
__62. Billboards	39	33	14	11	3	59	41
__63. Safety videos	71	21	4	2	2	83	17
__64. Work permits	70	20	3	4	3	73	27
__65. Materials produced within your own department ..	62	24	4	5	5	69	31

66. Are there any other sources of information about One Call centers that you have found particularly effective?
[OPEN-ENDED -- RECORD RESPONSE -- CODE 99 FOR DON'T KNOW]

Now I'd like to ask you a few more questions for classification purposes only.

67. Not including contractors, approximately how many employees work for your department? [CODE RESPONSE. DK/REFUSED=99999] _____

68. Are the employees at your department members of a labor union?

yes	40
no	58
DK/Refused	2

69. How would you describe the locations where you perform most of your excavation work -- are your excavation sites typically in urban areas, suburban areas, small towns, or rural locations?

MORE THAN ONE RESPONSE ACCEPTED

urban	27
suburban	21
small town	28
rural	63
(Don't Know/Refused)	1

70. Is your department administered by state, county, or municipal government?

state.	40
county	34
municipal	20
(Other: _____)	4
don't know	1

Questionnaire:

Underground Facility Operators

OPS/DAMQAT SURVEY -- UNDERGROUND FACILITY OPERATORS

Final -- MARGINALS

JUNE 1997

Hello. May I speak with **[ASK FOR NAME ON LIST -- IF RESPONDENT IS UNAVAILABLE, RESCHEDULE FOR CONVENIENT TIME]**

My name is _____. I'm calling from Edge Research on behalf of the U.S. Department of Transportation. We're conducting a public opinion survey and I would like to ask you some questions. I want to stress that your individual responses are confidential and that the results will be reported in aggregate form for research purposes only.

1. First, does your company own or operate any underground facilities such as gas pipelines, oil pipelines, telecommunications lines, water lines, sewer lines, gas distribution lines, or cable television lines.?

Yes 100
No **TERMINATE**
don't know **TERMINATE**

2. At any time over the past two years, have you personally been involved in the operation or maintenance of your company's underground facilities?

Yes **[CONTINUE WITH Q3]** 100

ASK FOR REFERRAL TO EMPLOYEE WHO IS INVOLVED IN
No/DK/Ref **OPERATIONS/MAINTENANCE AND REPEAT INTRODUCTION**
-- IF NONE AVAILABLE, TERMINATE

3. Does your company perform excavation work related to the installation or maintenance of its underground facilities?

Yes 92
No 8
don't know 0

4. Within the past year, have you personally performed, supervised, or observed excavations?

Yes 81
No/don't know 19

5. On average, would you say that you personally are involved in on-site excavations just about every day, a few times a week, a few times a month, or less often than a few times a month?

just about every day 11
few times a week 14
few times a month 29
less often 41
don't know 4

6. On average, would you say that your company as a whole performs excavations just about every day, a few times a week, a few times a month, or less often than a few times a month?

just about every day	41
few times a week	15
few times a month	25
less often	17
don't know	2

7. In general, how concerned are you about damage to underground facilities. Are you very concerned, somewhat concerned, not too concerned, or not concerned at all? **[IF NECESSARY, READ: Underground facilities include gas pipelines, oil pipelines, telecommunications lines, water lines, sewer lines, gas distribution lines, and cable television lines.]**

very concerned	85
somewhat concerned	10
not too concerned	2
not concerned at all	2
don't know	1

8. How concerned are that your company might inadvertently cause damage to underground facilities? Are you very concerned, somewhat concerned, not too concerned, or not concerned at all.

very concerned	70
somewhat concerned	14
not too concerned	9
not concerned at all	6
don't know	1

9. Generally speaking, does your company take any measures to prevent damage to underground facilities?

yes, take measures	97
no, don't take measures [SKIP TO Q20]	3
don't know [SKIP TO Q20]	0

(IF "YES" ON Q9:) What measures would you say you and your company takes to prevent damage to underground facilities on a typical excavation? [ACCEPT MULTIPLE RESPONSES -- CHECK ALL THAT APPLY]

[DO NOT READ LIST]

10. contact "Call Before You Dig"/One-Call Centers	70
11. participate in One-Call program	55
12. use underground facility location equipment or services	30
13. pre-construction meetings/reviews with facility owners	22
14. videotape excavation area	7
15. hand digging	34
16. pre-mark excavation areas with paint	32
17. make sure the facility operator/representative is present during excavation	15
18. account for all feeds to houses or buildings	16
19. Other [RECORD:]_____	8

Now I'm going to read you a list of possible damage prevention actions that can be done before any excavation project. After each, please tell me how effective you think that would be in reducing damage to underground facilities. Would it be very effective, somewhat effective, not too effective, or not effective at all in reducing damage to underground facilities.

[ROTATE]	very eff	swhat eff	not too eff	not at all eff	don't know
__20. Holding a pre-construction meeting with facility owners to review the excavation area	67	29	3	1	1
__21. Notifying "Call Before You Dig" or One Call service centers	85	11	2	1	1
__22. Hand digging in areas where there might be underground facilities	80	18	0	1	0
__23. Pre-marking excavation areas with paint	77	18	3	2	0
__24. Accounting for all feeds to houses or buildings before excavation	74	19	4	2	2
__25. Making sure a representative from the underground facility operator is present during excavation	53	33	8	5	1
__26. Exposing all submerged facilities that you will be crossing	71	20	5	2	2
__27. Using underground facility locating equipment or hiring					

an underground facility locating company 74 21 3 2 1
28. Has your company ever been involved in an excavation that accidentally resulted in damage to its own underground facilities?

yes 62
no 33
don't know 5

29. Has your company ever been involved in an excavation that accidentally resulted in damage to someone else's underground facilities?

yes 65
no 29
don't know 5

30. Has your company ever been involved in an excavation that accidentally resulted in damage to someone else's underground facilities even after you had contacted and received information from a One Call Center?

yes 50
no 40
don't know 10

31. In general, how concerned are you about damage to your company's underground facilities caused by another company, government agency or individual? Are you very concerned, somewhat concerned, not too concerned, or not concerned at all.

very concerned 86
somewhat concerned 9
not too concerned 3
not concerned at all 1
don't know 1

32. Has your company ever had any of its underground facilities damaged by another company, government agency or individual?

yes 88
no 10
don't know 3

33. Has your company ever had any of its underground facilities damaged by a third party even after the third party contacted a One Call Center?

yes 67
no 22

don't know 11

34. Does your company participate in a regional or statewide one-call program that is administered by an outside agency or organization?

yes 84

no 13

don't know 3

35. In general, how prompt are One Call Centers in relaying excavator requests for information on your facilities. Do you usually receive a request the same day the excavator calls, the following day, two days later, or more than two days later?

Same day 60

Following day 21

Two days later 8

More than two day later 1

don't know 10

36. How effective do you think One Call Centers are in preventing damage by other companies, government agencies, or individuals to your underground facilities. Are they very effective, somewhat effective, not too effective, or not effective at all?

Very effective 70

somewhat effective 24

not too effective 1

not effective at all 1

don't know 4

37. Thinking about the times you have been contacted by a One Call Center, how regularly would you say you provided the excavator with facility location information before they begin their excavation -- every time, most of the time, some of the time, rarely, never?

every time 63

most of the time 27

some of the time 3

rarely 1

never 1

don't know 6

38. And, how quickly can you respond to requests from One-Call Centers about your own underground facilities? Can you respond the same day the One Call Center contacts you, the following day, two days later, or more than two days later?

Same day 60

Following day 22

Two days later 10

More than two day later 1

don't know 6

Thinking about the most recent instance when your company's underground facilities were damaged, how important would you say each of the following factors were in that accident -- very important, somewhat important, not too important, not important at all.

[ROTATE]	very imp	swhat imp	not too imp	not at imp	don't know
__39. Your company was contacted by a One Call Center with a facility location request, but the excavator began digging before the lines were marked	41	10	5	32	13
__40. Your company had difficulty providing precise facility location markings	27	16	8	39	10
__41. The excavator did not contact a One Call Center with a facility location request	50	13	4	21	12
__42. Your company provided accurate facility location markings, but the excavator was unable to avoid damaging the facility anyway	42	17	8	21	11

I'm going to read you a list of ways to disseminate information about One Call Centers. First, please tell me if your company uses that particular method of disseminating information about One Call Centers. Next, please tell me how effective that is as a method of disseminating information about One Call Centers -- very effective, somewhat effective, not too effective, or not effective at all.

[ROTATE]	Use	very eff	swhat eff	not too eff	not at all eff	don't know
__43. Brochures	54	34	41	16	4	5
__44. Public Service Announcements	57	35	44	14	2	5
__45. Bumper stickers	28	14	45	24	9	8
__46. Decals and other labels	53	32	50	10	3	5
__47. Training materials	66	45	37	13	2	4
__48. Billboards	23	14	43	25	7	10
__49. Safety videos	59	43	36	14	2	5
__50. Work permits	59	49	30	14	2	5

51. Are there any other ways of disseminating information about One Call centers that you have found particularly effective? [OPEN-ENDED -- RECORD RESPONSE -- CODE 99 FOR DON'T KNOW]

Now I'd like to ask you a few more questions for classification purposes only.

52. Not including contractors, approximately how many employees work for your company? **[CODE RESPONSE. DK/REFUSED=99999]** _____

53. Are the employees at your company members of a labor union?

yes	38
no	58
DK/Refused	4

54. Does your company belong to an industry association?

yes	79
no	13
DK/Refused	8

55. How would you describe the locations of most of your underground facilities -- are they primarily located in urban areas, suburban areas, small towns, or rural locations?
[MULTIPLE RESPONSES]

urban	32
suburban	27
small town	38
rural	60
(Don't Know/Refused)	2

56. Is your company a publicly owned or regulated utility?

Yes	70
No	26
don't know	3

57. Which of the following types of underground facilities does your company operate or manage? **(READ LIST -- CHECK ALL THAT APPLY)**

Natural gas	42
Electric	23
Oil or other petroleum products	17
Chemicals or other hazardous gases or liquids	5
Telecommunications	40
Cable television	19
Water or sewage	11
Other (RECORD: _____)	0

Questionnaire:

U.S. Public

OPS/DAMQAT SURVEY -- GENERAL PUBLIC

Marginals

May 29, 1997

Hello, my name is _____. I'm calling from Edge Research on behalf of the U.S. Department of Transportation. We're conducting a public opinion survey and I would like to ask you some questions. We are not selling anything, and I will not ask you for a contribution or donation.

1. Do you own or have access to any property on which you are allowed to dig for construction, home improvement or other purposes such as building a swimming pool or fence?

Yes 100
No **TERMINATE**
don't know **TERMINATE**

As you may know there are many ways of transporting industrial goods and products across the country. I'm going to read a list of ways to transport goods and products and I'd like you to tell me how safe you think each one is -- very safe, pretty safe, not too safe, or not safe at all. The first item is...

[READ LIST -- ROTATE]

	Very	pretty	Not too	Not at all	DK
__2. Railroads	39	52	6	1	2
__3. Airlines	31	51	14	3	2
__4. Trucks	21	56	18	4	2

ASK LAST

5. Underground pipelines and cables 27 41 14 5 12

6. In general, how concerned are you about damage to underground facilities, such as telecommunications lines, water lines, sewer lines, cable television lines, natural gas pipelines, and oil pipelines. Are you very concerned, somewhat concerned, not too concerned, or not concerned at all?

very concerned 27
somewhat concerned 33
not too concerned 28
not concerned at all 10
don't know 2

7. To the best of your knowledge, are there any underground pipelines or cables on or near property?

Yes 55
No **[SKIP TO Q15]** 37
don't know **[SKIP TO Q 15]** 8

Which of the following types of pipelines or cables -- also known as underground facilities -- are located on or near your property? **[READ LIST -- CHECK ALL THAT APPLY]**

8. natural gas pipelines	35
9. electrical cables	32
10. telephone cables	36
11. television cables	28
12. water or sewage pipelines	44
13. oil, chemical, or hazardous liquid pipelines	3

14. How did you become aware of the presence of these underground facilities? **[OPEN-ENDED -- RECORD RESPONSE -- CODE UPON COMPLETION OF INTERVIEW]**

found them while digging	6
damaged pipeline/cable while digging	1
property/home plans	20
called One Call center/800 number/help line	5
Common Sense / General Knowledge	1
Assumptions	3
Put them in / Saw them put in	1
Family / Neighbors	2
Power Company	1
Meter / Utility Box	1
Had it checked	1
Don't Know	6
Refused	6

[RESUME ASKING ALL RESPONDENTS]

15. Have you ever performed any construction, home improvement or other projects like building a swimming pool or fence that required you to dig underground on your property?

Yes	43
No	56
don't know	1

16. Have you ever encountered an underground facility like a cable or pipeline while you were digging on your property?

Yes	15
No	84
don't know	1

17. Have you ever accidentally damaged an underground facility like a cable or a pipeline while you were digging on your property?

Yes	7
No [SKIP TO Q19]	92
don't know [SKIP TO Q19]	1

18. Was it necessary for this damage to be repaired by the company that operates or owns that particular pipeline or cable?

	N=41
Yes	75
No	25
don't know	0

[RESUME ASKING ALL RESPONDENTS]

19. Are you aware of any help lines or 800 numbers that you can call before digging to help avoid personal injury or damage to underground facilities?

Yes	55
No [SKIP TO Q29]	43
don't know [SKIP TO Q29]	2

20. Which of the following companies or agencies operates that help line or 800 number? **[READ LIST -- CHECK ALL THAT APPLY]**

	N=330
your natural gas utility company	31
your electric utility company	32
an agency of your state or local government	20

21. In which of the following ways did you find out about that help line or 800 number? **[READ LIST -- CHECK ALL THAT APPLY]**

	N=330
inserts in your utility bill	30
billboards or signs in other public areas	11
Public Service Announcements on television	18
signs near utility company facilities	12
newspaper or magazine advertisements	12
Public Service Announcements on the radio	13
television, radio, or newspaper articles	19

I'm going to read you a similar list, but this time I'd like you to tell me how useful each one would be to you as a source of information on underground pipeline and cable damage prevention. For each, please tell me if that would be a very useful source of information, somewhat useful, not too useful, or not useful at all. **[READ LIST -- ROTATE]**

N=330

	Very	Smwht	Not too	Not at all	DK
22. inserts in your utility bill	56	30	5	8	2
23. billboards or signs in other public areas	20	42	21	16	1
24. Public Service Announcements on television	44	39	10	6	1
25. signs near utility company facilities	30	32	21	14	4
26. newspaper or magazine advertisements	25	42	20	11	3
27. Public Service Announcements on the radio	35	38	13	11	3
28. television, radio, or newspaper articles	39	44	9	6	2

[RESUME ASKING ALL RESPONDENTS]

29. Have you ever called a help line or 800 number before digging on your property?

Yes 20
 No 79
 don't know 1

30. Currently, most states operate a toll-free telephone number that individuals and companies can use to contact a "Call Before You Dig" center, also known as a One Call Center. Individuals and companies are supposed to call these centers two days before they begin digging or excavating to find out whether there are any pipelines or cables in their work area that they need to avoid. How likely would you be to contact a one call center before you begin digging or excavating on your own property -- very likely, somewhat likely, not too likely, or not likely at all?

Very likely 60
 Somewhat likely 20
 Not too likely 9
 Not likely at all 9
 DK/Refused 3

I'm going to read you some reasons people have given for contacting a "Call Before You Dig" or One Call Center toll-free number. After I read each one, please tell me how convincing you think it is as a reason to contact a One Call Center before beginning any project that involves digging or excavating -- very convincing, somewhat convincing, not too convincing, or not at all convincing.

[ROTATE]		Very conv.	Smwt conv.	Not too conv.	Not at all	DK/REF
__31.	Damage to underground facilities costs American taxpayers millions of dollars for repairs annually	55	30	9	4	3
__32.	Each year, people are seriously injured or killed after accidentally striking underground cables or pipelines	72	19	5	2	2
__33.	Damage to underground facilities can severely harm the environment and contaminate water supplies	66	24	6	2	2
__34.	Damage to underground cables can cause major disruptions of telecommunication networks, including 911 emergency lines and air traffic control systems	68	23	5	3	2

35. GENDER (OBSERVATION: DO NOT ASK)

MALE 50
FEMALE 50

36. What is your age? [CODE ACTUAL AGE. REFUSED=99] _____

18-29 13
30-39 24
40-49 22
50-59 17
60+ 19
refused 5

37. What was the last level of schooling you completed?

less than high school graduate 5
high school graduate 29
some college/technical 28
college graduate 30
post-graduate degree 8
(Don't Know/Refused) 1

38. How would you describe the area in which you live -- Do you live in a city with over a million people, in a smaller city, in a suburban area outside a city, in a small town, or in a rural area?

City (1 million+)	14
Smaller city	20
Suburban area	27
Small town	20
Rural area	17
(Don't Know/Refused)	1

39. How many years have you lived in your current residence? [CODE YEARS -- REFUSED=99]